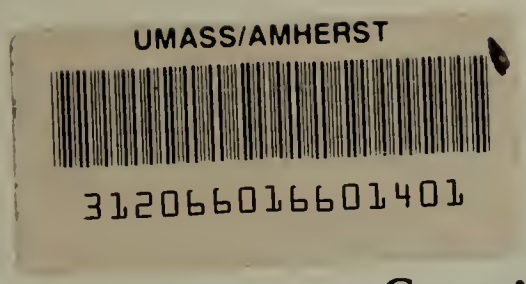

Report
of the
Special Legislative Commission
on
Lead Poisoning Prevention

THE CONTINUING TOLL

Lead Poisoning Prevention in the Commonwealth:
Current Efforts and Future Strategies

Special Legislative Commission on Lead Poisoning Prevention

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I. INTRODUCTION

The Special Legislative Commission on Lead Poisoning Prevention was created by Chapter 140, Section 57 of the Acts of 1985 to investigate the adequacy of lead poisoning prevention efforts in the Commonwealth and to report its findings and recommendations to the Legislature by December 1986. The Commission is composed of twenty members, including four members of the Legislature's Joint Committee on Health Care, various professionals whose work directly touches on the proper enforcement of lead poisoning prevention programs, as well as private citizens representing the parents of poisoned children.

The Commission has met on a monthly, and periodically on a semimonthly basis from December 1985 through December 1986, to review the findings of its subcommittees and to hear expert testimony. The subcommittees, composed of Commission members, separately evaluated technical standards and screening, statutory enforcement and funding initiatives to provide an in-depth analysis of these issues for the Commission as a whole.

In addition to drawing on the expertise of its own members and guest experts, the Commission conducted five public hearings throughout the state: in Boston, New Bedford, Worcester, Springfield, and Lowell. These hearings were held to enable Commission members to speak with people who had been directly affected by the lead poisoning prevention law and to hear their suggestions as to how it might be improved. Over 400 people attended the hearings and lengthy oral and written testimony was solicited.

In addition to acknowledging the Commission members themselves, all of whom gave generously of their time with no compensation, the Commission would like to thank Celia Josephson, the Commission's Executive Director and Robin Coyne, Assistant Director, who organized and drafted much of the Commission's work.

Special thanks are also extended to Stephanie Pollack of the Conservation Law Foundation who provided her assistance in legislative drafting.

Executive Summary

In 1971, the Massachusetts General Court approved comprehensive and historic lead poisoning prevention legislation. Yet today, 15 years later, lead poisoning is still the number one cause of childhood poisoning in the Commonwealth with many more children falling prey to it than to measles, mumps, rubella and all other major childhood diseases combined.

Unlike most other medical disorders, lead poisoning is completely preventable. Eliminate environmental lead and lead poisoning disappears. The costs of failing to do so are high. Lead poisoning affects the youngest, most vulnerable members of society and afflicts them with a disease that is painful and disorienting in its symptoms and in its treatment. In addition, once damage is done it is permanent. Poisoning, if serious, can result in significant restrictions in intellectual development, resulting in large initial medical costs and recurring future costs for remedial education and lost earning capacity. Low level poisoning which is increasingly common can also place a child at risk for both learning and behavioral disorders.

Failure to act decisively against this environmental hazard inflicts continuing costs on society, as each year produces another cohort of poisoned children.

Given this scenario, the Special Legislative Commission has made numerous findings and has proposed a broad-based package of reforms to better wage the battle against lead poisoning. These include the following:

1. An unacceptable number of deleadings are not performed safely. There are currently insufficient quality controls on private inspectors and deleaders. As such, *a certification and training program for inspectors and deleaders is necessary to ensure the quality and safety of deleading:*

2. Lead poisoning often shows no symptoms in its early stages, requiring early diagnosis to prevent further irremediable damage. It also affects a wide range of children crossing financial, racial, and geographic lines. To meet this challenge, the Commission recommends *that medical providers screen all children six years of age and under, and that the costs of such services be mandatorily reimbursed.*

3. In areas around the state where significant screening has occurred, certain one to two block areas have been shown to produce dangerously high lead poisoning rates among resident children. In order to clean-up these areas before more children are poisoned, and to direct public funds where they can be most effective, the Commission recommends *the designation of "Emergency Lead Poisoning Areas" for targeted systematic inspections and deleading.*

4. Current research has clearly linked high concentrations of lead in soil with many cases of lead poisoning, especially those stemming from constant low level exposure. Soil retains lead from painted building exteriors as well as airborne sources such as auto emissions. As such, the Commission recommends that *soil be included in current lead poisoning inspection and deleading requirements.*

5. The leaching of lead from pipes into drinking water has long been recognized as a hazard, and limits have been placed on acceptable levels of lead in water by the federal government. The EPA has now recommended a stricter lead in water standard and Massachusetts should act quickly to adopt it. Other measures should also be taken to make water supplies less acidic to prevent further leaching. *The Commission has therefore recommended that a 20 parts per billion lead in water standard be adopted and that measures be taken to properly test drinking water and to implement necessary corrosion control measures in local communities.*

6. Many homebuyers are caught by surprise that their homes contain dangerous levels of lead paint, usually through the unfortunate circumstance that their children become lead poisoned. To prevent this situation from arising in the future, the Commission recommends that the Legislature authorize *a phased-in program in which all residential property built before 1978 will be inspected for lead.*

7. Because families with children often encounter discrimination in the housing market due to property owners' fear of liability under the lead poisoning prevention statute, the Commission has recommended that *the law be amended to counter this discrimination.*

8. Local boards of health from the law's inception have had joint responsibility with the state program to enforce the lead law. Unfortunately due to a lack of resources and a deferral to the state's expertise, this burden has not been shared by local boards. To permit greater community involvement and to better allocate the state's resources, the Commission recommends that *local boards of health be asked to bear primary responsibility for lead inspections.*

9. Lastly to assist property owners required under the statute to delead, and to encourage those who wish to preventively delead, the Commission has proposed *a funding package including grants and loans to low income property owners and tax credits up to $1000 for other property owners. Initial funding for the grant/loan program will come from a newly instituted 3 cent tax on leaded gasoline.*

Sources and Effects of Lead Poisoning

Children are exposed to lead in a number of ways. (See Figure 1, page 4.) Lead-based paint, however, valued for its durability and brightness, is the principal source of high-dose lead exposure and symptomatic lead poisoning among children in the United States. An estimated 90 percent of lead intoxication cases result from the ingestion of peeling, chipped, finely ground or deteriorated paint.

Prior to government intervention, some interior paints contained more than 50 percent (500,000 ppm) lead. The interior surfaces of an estimated 27 million residences in the United States were painted with highly concentrated lead-based paint. Lead-based paint was also used for exterior walls and trim, porches, stairs, outdoor and indoor furniture, garages, outdoor play equipment, and many other household items.

The mechanism by which children ingest lead-based paint is often normal hand-mouth activity. Infants commonly put non-food objects covered with leaded dust or paint into their mouths and toddlers frequently handle toys and are exposed to accessible surfaces such as window sills. The very few children who experience pica, a condition marked by a voracious appetite for non-food items, are at even greater risk.

Children may also become poisoned through the ingestion or inhalation of dust or soil which has been contaminated by flaking paint. A 1985 document prepared by the Centers for Disease Control stated that in general, lead in soil and dust appears to be responsible for blood lead levels increasing above background levels when the concentration in the soil or dust exceeds 500-1,000 ppm.

Airborne lead, resulting from either auto emissions or industrial sources, represents an additional source of exposure. Direct inhalation of lead particles in the air can contribute to lead intoxication, as can the intake of soil or dust which has been contaminated by lead in the air. In addition, adults who work in lead producing industries, such as smelters, auto body repairing and painting shops, and home remodeling sometimes transfer lead-contaminated dust into their home through work clothes, shoes, and hair.

Lead-contaminated drinking water also contributes to the level of exposure. In most cases, lead in water has been leached from lead tanks and pipes, or lead soldered copper pipes by soft water having an acidic pH.

Other sources of lead include lead-glazed pottery, lead solder in cans, food grown in lead-contaminated soil, folk remedies, cosmetics, and the burning of waste oil, colored newsprint, battery casings, or lead-painted wood.

Young children are particularly vulnerable to the effects of lead because they absorb and retain more lead in proportion to their body weight. Studies have demonstrated that approximately 40-50 percent of the lead children ingest is absorbed from the gastrointestinal tract, while adults absorb only 5-10 percent in this manner. (1) In addition, the higher mineral turnover in children's bones results in greater availability of lead to developing body systems. Since children consume more food per unit of body weight, their intake of dietary lead is proportionately greater than that ingested by adults. Children also breathe more in proportion to their body weight and therefore take in greater amounts of airborne lead.

Absorption of lead is also affected by a child's nutritional status. In particular, deficiencies in iron, calcium, and phosphorous are directly correlated with increased blood lead levels. In addition, studies have demonstrated a connection between increased dietary fat and enhanced absorption of lead from the intestine.

Because there are a finite number of storage sites for lead in the body, prolonged exposure causes those sites to fill up. Since lead is excreted very slowly at a constant rate, it is possible for small doses to produce dangerously high blood lead levels when intake occurs over a long period of time.

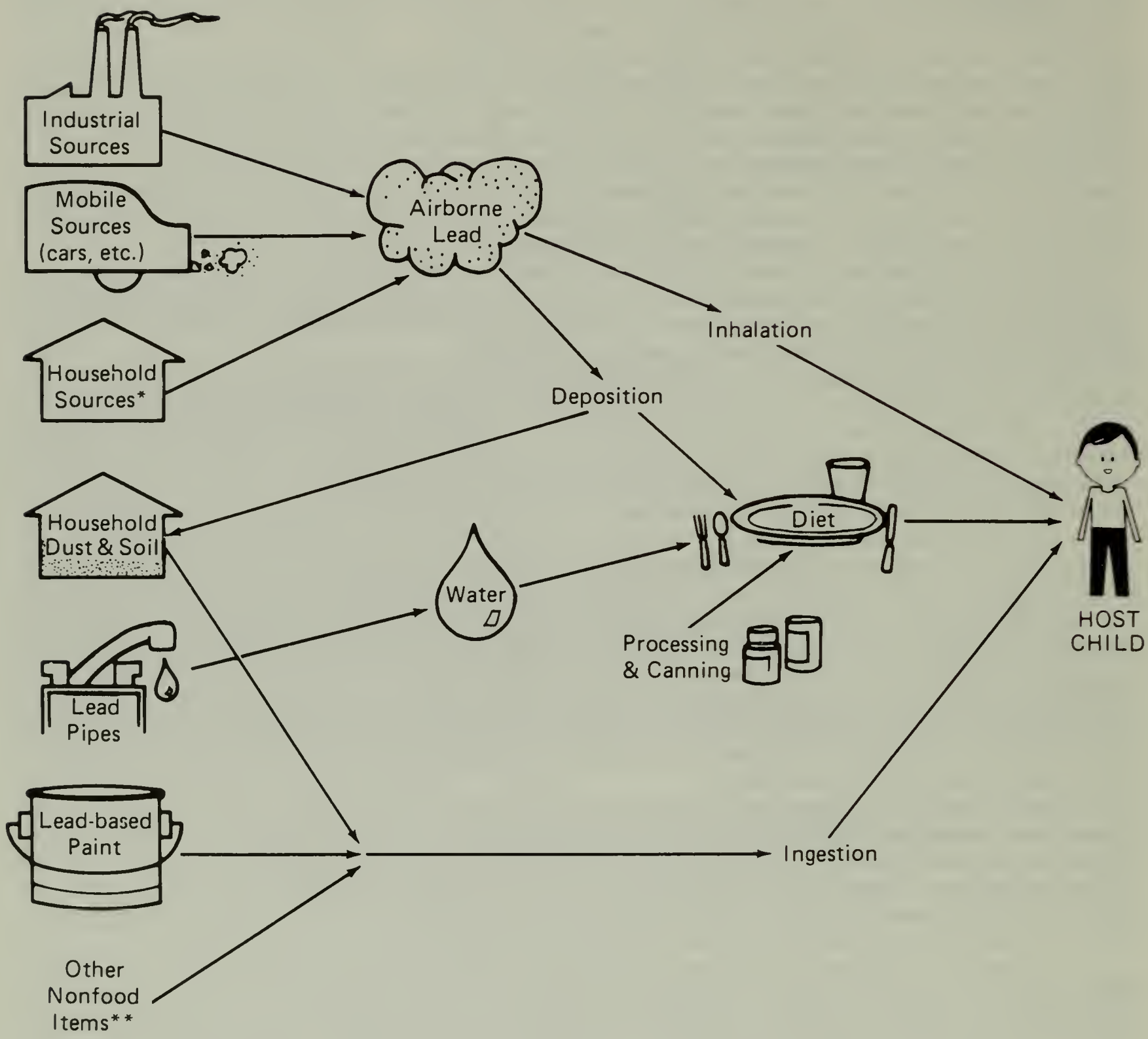
Excessive amounts of lead in the body affect the hematopoietic system through which blood cells are developed and produced, the renal system, and the nervous system. High levels of lead cause severe renal impairment, mental retardation, and impaired motor function. Lower blood levels may result in impaired learning, impulse control, and dexterity. The effects of lead upon the hematopoietic system can be reversed, however, resultant injury to the renal and nervous systems is permanent.

Symptoms of lead toxicity include fatigue, pallor, malaise, loss of appetite, irritability, sleep disturbances, sudden behavioral changes, and developmental regression. It should be noted, however, that the majority of children found through screening programs are either mildly symptomatic or clinically asymptomatic.

The absence of symptoms in many lead poisoned children demonstrates the need to screen children who may be at risk. Use of erythrocyte protoporphyrin or blood lead tests enables the identification of children who require further evaluation. These children are then classified into one of four categories according to their need for medical evaluation. Class IV indicates children determined to be at urgent risk, class III signifies high risk, class II represents moderate risk, and class I children are considered to be at low risk to incur lead poisoning.

Children with positive screening results are then diagnosed and categorized for clinical management and follow-up purposes. They are determined to be at urgent, high, moderate, or low risk according to the severity of their lead burden.

Figure 1
SOURCES OF LEAD IN A CHILD'S ENVIRONMENT



*Production of bullets or fishing sinkers
Soldering and stained-glass work
Gasoline sniffing
Pottery glazing
Burning of batteries, colored newsprint, lead-painted objects, and waste oil

**Toys and figures containing lead
Folk remedies
Cosmetics (especially Oriental cosmetics, e.g., Surma, a black eyeliner)
Jewelry (painted with lead to simulate pearl)
Lead-containing dust transmitted on clothing from workplace

Source: *Preventing Lead Poisoning in Young Children*, Centers for Disease Control, January 1985.

Children classified as urgent risk (69 micrograms of lead per deciliter of whole blood) require immediate medical intervention as such high concentrations can result in brain damage and even death. Severely poisoned children are often hospitalized and treated by a procedure termed chelation therapy. This painful and somewhat risky process involves the intravenous or oral introduction of chemicals into the child's body which can draw the lead from the bones and enhance its excretion. Chelation therapy is also used to treat some children classified as high risk.

Children determined to be at high and moderate risk may experience learning and behavioral disabilities. Many of these children will require inpatient chelation. Those who don't will still require outpatient treatment, careful monitoring, and appropriate environmental intervention.

Class I children are considered to be at low risk for lead poisoning, but should be periodically screened. It should be noted, however, that recently conducted research has indicated that lead levels previously thought safe can result in adverse effects. In fact, in January, 1986, the Centers for Disease Control recommended that the definition of an elevated blood level be lowered from 30 to 25 ug/dl.

II. SUMMARY OF MASSACHUSETTS LAW

In 1971, when Massachusetts passed its first lead poisoning prevention statute, an estimated 13 percent of children under six then residing in the state, or approximately 75,000 children, were thought to be at risk of lead poisoning. This figure was derived using a much higher lead poisoning threshold than is used today. (2) Of the 75,000 children at risk in 1971, nearly 27 percent, or 20,000 children, were actually poisoned. (Again using the standard then in place of 40 ug). (3)

Despite these overwhelming statistics, the threat of lead poisoning only began to be widely publicized in Massachusetts in the late 1960s when the first screenings began. By 1970 a loose coalition of concerned parents, social workers, and members of the medical community formed the Citizens' Committee to End Lead Paint Poisoning, the group whose lobbying efforts ultimately resulted in passage of the Massachusetts statute.

While there was support in the State House for some kind of plan, legislators had to find their way through four proposed bills and many amendments, several of which sought to directly limit any mandated enforcement efforts. The bill which ultimately became law survived with most of its provisions intact with the exception of an enforcement delay of more than a year on its deleading requirements and its ban on the use of lead paint on housing units and on cooking and eating utensils. In addition, deleading requirements were restricted to a four foot level and applied to only those units where children under six resided. The Lead Poisoning Prevention and Control Act codified in G. L. c. 111 s. 190-199 passed the House and Senate unanimously with one dissenting Senate vote and was signed by Governor Francis Sargent on November 15, 1971.

The law in its original form contained the following provisions: (Subsequent amendments are noted.)

Section 190: Statewide Program
Establishes a statewide lead poisoning prevention program to be administered by the Department of Public Health. The Commissioner of the Department is to appoint a Director who in turn shall be advised on matters of policy by a citizens' advisory committee appointed by the Governor.

Section 191: Reports of Lead Poisoning
Requires physicians, hospitals, public health nurses and others to report cases of lead poisoning to the Director of the state lead program within three days of their being apprised of each case. The Director is mandated to define the term "lead poisoning" by regulation. The Director must inform local boards of health and public health agencies of reported lead poisoning cases. The Director is to maintain geographically indexed records of cases.

Section 192: Educational Program
Requires the Director to coordinate an educational campaign to inform the public of the dangers and frequency of lead poisoning, its sources and prevention.

Section 193: Early Diagnosis
Requires the Director to establish a program for the early diagnosis of lead poisoning cases. "To the extent permitted by appropriation", the program is to systematically examine all children under six residing in the Commonwealth. If universal examinations are not feasible, priority is to be given to those children who reside in areas where lead hazards are most significant.
The program is to examine children under six if they live or have recently lived with a lead poisoned child. Parents, guardians, appropriate agencies and the affected child are to be informed of probable cases of lead poisoning.
Geographically indexed records are to be kept of all examinations conducted.

Section 194: Detection of Sources: Inspections
Requires the Director to establish a comprehensive program for the detection of sources of lead poisoning. "To the extent permitted by appropriation", systematic inspections are to be conducted of all dwellings in the Commonwealth that may contain dangerous levels of lead paint. If all dwellings cannot be inspected, priority is to be given to areas where children under six reside and where the danger of lead poisoning is greatest.
The Director is to establish by regulation the appropriate means of detection and amount of lead that creates the danger of lead poisoning.
The Director must inspect any dwellings where a lead poisoning victim resides or has recently resided. When a dangerous level of lead is found, the Director is required to inform owners, affected tenants, lien holders, mortgagees and appropriate enforcement authorities.

The Director is to have all children under six examined who live in or have recently lived in a dwelling containing dangerous levels of lead.
The Director must maintain geographically indexed records of all inspections.
1974 amendment: The Director shall provide by regulation the means by which local boards of health are to enforce this section.
1978, 1983 and 1985 amendments: Single family home owners are exempted from the inspectional requirements of this section unless a poisoned child resides on the premises. The most recent amendment expired on January 1, 1986.

Section 195: State Laboratory Analysis
Requires the Commissioner of Public Health to establish a State Laboratory for lead and lead poisoning detection.
1973 amendment: Copies of lab reports are admissible as evidence in judicial proceedings without additional evidence of their authenticity.

Section 196: Prohibited Acts; Personal Property
Forbids the use of lead based paint or glaze on toys, furniture, cooking, drinking, and eating utensils and the interior and exterior surface or fixture of any dwelling.
Forbids the sale, giving away or possession with intent to sell of any toys, furniture, or utensils to which lead based paint or glaze has been applied.
Permits the embargo of articles in violation of the above mentioned provisions.
Punishes violators of the above sections with penalties of from $100-500 fines per violation and by imprisonment of not more than three months for each willful violation.
1979 amendment: Defines lead based paint, glaze or other substances as those which contain more than .5 percent lead by weight for items manufactured before June 23, 1977 and .06 percent for those manufactured afterward.
Forbids the sale, possession with intent to sell or the giving away of lead based paints.
Permits the Director, with the concurrence of the majority of the advisory committee to exempt certain paints.
Permits the embargo of restricted paints and provides penalties of two to five hundred dollars for violations of this section.
Allows imprisonment not to exceed six months for willful violations of this section.

Section 197: Duty of Property Owners; Removal of Paint; Requirements upon Change of Ownership
Whether or not a lead paint inspection has been performed, requires the owner of residential premises including new purchasers of property where children under the age of six reside or will reside to remove or cover leaded surfaces as follows:
All peeling lead based paint on both interior and exterior surfaces must be removed or covered.
Leaded surfaces that are not peeling must be removed or covered on window sills, door frames below the four foot level, stair rail spindles, stair treads from the lip to the riser and four inches back from the lip, doors below the four foot level and four inches from all edges, stair rails, porch railings and all other surfaces or fixtures that may be chewed by children.
Provides that repainting with non-lead based paint without removing the lead covered surfaces does not comply with the law.
The provisions of this section are to be strictly construed and enforced to protect the safety of residents.
Implementation delayed until January 1, 1973.

Section 198: Violations of Enforcement
Provides that violations of the Lead Poisoning Prevention Act may be treated as violations of the State Sanitary Code and as such all remedies available for violation of the code are available for violation of the statute.
Vests power and responsibility in local boards of health or other code enforcement agencies to enforce the act.
Gives concurrent power to the Director of the state program to enforce the statute and provides that violations are to be treated as emergency matters and are to be given preference by enforcement agencies and speedy hearings by the courts. 1974 amendment: The Director is to provide by regulation the means for local boards of health to implement this section.

Section 199: Owner Liability
Creates civil liability in owners of residential property for damages resulting from a failure to comply with sections 196 and 197 of the law.
Allows for treble damages to be collected against an owner who, when notified of a violation, fails to take corrective steps.
Implementation delayed until January 1, 1973.

Accomplishments to Date: What the Data Shows

In the following pages, data have been aggregated over time periods for which reliable data are available to evaluate the effectiveness of the Childhood Lead Poisoning Prevention Program and the federally funded Maternal and Child Health projects in remedying the problem of lead poisoning in the Commonwealth. In its review of this information, the Commission has sought to answer the following questions:

- Have screening rates for Massachusetts children at risk for lead poisoning shown significant improvement?
- Has the incidence of childhood lead poisoning declined?
- Is the state laboratory meeting demand for analysis of leaded samples?
- Is the case management system effective in assuring quality monitoring of medical care and hazard abatement for poisoned children?
- Are inspectional services adequate to meet demand?
- Are enforcement activities effective in achieving abatement of lead hazards?
- Are educational materials reaching a broad enough audience?

The Childhood Lead Poisoning Prevention Program

In order to implement the requirements of the new lead poisoning prevention statute, the Commissioner of Public Health created the Childhood Lead Poisoning Prevention Program headquartered in Jamaica Plain and appointed its first director in 1973.

Fifteen years since its creation, the CLPPP has evolved into an integrated program offering laboratory services, medical case management and environmental follow-up for lead poisoned children. Children are identified as potential or confirmed cases by the laboratory which conducts screening and diagnostic tests. Children identified as a result of this testing are referred to the nurses in the Case Management System. The nurses ensure that the children return for any necessary diagnostic and follow-up tests. They also refer cases of poisoned children to the environmental inspectors who investigate the child's environment for lead sources. An organizational chart is attached which describes the program's structure. (Chart A, p. 12.)

Throughout its development, the Childhood Lead Poisoning Prevention Program has had to overcome numerous obstacles to the full implementation of its mandate. In its initial phase, the program offered screening and inspectional services with small amounts of funding made available for crisis deleading. Although the law was passed in 1971, funding was delayed for the program until fiscal year 1974. The limited resources then available, a total budget of $280,000, were quickly spent on identifying poisoned children, and seeing that their homes were made safe. No funds remained to preventively inspect and delead dwellings, or to monitor severely poisoned children to make sure that they received proper medical treatment.

In 1973, the CLPPP was authorized to establish a state laboratory in which both blood and other lead bearing samples could be analyzed. Over time the laboratory's efficiency has grown such that now 75 percent of the Commonwealth's samples are processed there. The lab has maintained on average a 10 percent growth rate since 1981. (see Chart B, p. 13.) By maintaining a highly centralized facility that serves the entire state, (greatly assisted by the Boston Lab operated by the Boston Childhood Lead Poisoning Prevention Program which processes approximately 20 percent of the state's samples), the CLPPP is in an optimal position to obtain screening data and to assure quality control of sampling.

Inspectional services have also evolved over the years. Prior to 1981, all inspectors operated out of the State Lab building in Jamaica Plain. This required them to spend enormous amounts of time traveling to and from inspections and court appearances. In 1982, the inspectors were regionalized in offices around the state (Amherst, Rutland, Tewksbury, Lakeville and Jamaica Plain). In their new locations, inspectors were able to respond much more quickly to requests, thereby increasing productivity and more importantly, the quality of inspections. This new efficiency permitted inspectors to expand inspections to include homes of most poisoned children, day care centers and when possible, property where children had not been poisoned. For a summary of CLPPP inspectional services to date please refer to Chart C, p. 14.

A deficiency of the state program which became evident in the early 1980s and was highlighted by the Senate Ways and Means Committee in its review of the program in 1982, was its lack of a medical case management system. A staff of public health nurses and data processing personnel as needed to ensure that poisoned children were receiving appropriate medical and environmental follow-up.

In 1982, CLPPP began to keep track of the most severely poisoned children (class III's and IV's) and allocated funds to use the services of one public health nurse on a limited basis. Some part-time regional nurses came on board during November 1983 to January 1984 through the federal Jobs Bill. In FY 1985, the availability of federal funds allowed the CLPPP to hire five additional nurses on a full time basis, and to expand and regionalize the case management system. In FY 1986, the Legislature provided state funds to place the system on a permanent basis. Funds were also provided to automate the system to allow for quick retrieval of information. Please refer to Charts B and D on pages 13 and 15 for a summary of CLPPP's case management activities.

Case management caseloads in recent years have been affected by the reduced number of new cases. Data from fiscal years 1984-1986 indicate that the statewide incidence of childhood lead poisoning has declined significantly. Although over 1,000 children still fell prey to lead poisoning in FY 1986, the number of new cases identified in the Commonwealth declined 41 percent in FY 1985 and 33 percent in FY 1986. (See Chart B, p. 13.) The numbers of inpatient and outpatient chelations have risen, however, as more cases receive the medical follow up they require. The numbers of severely poisoned children (class IV and class III cases) are declining, but not as rapidly as one would hope. Class IIIs declined from 397 to 275 from 1985-86 and class IVs declined from 58-47 for a comparable period. (See Chart D, p. 15)

Several explanations have been offered for this decrease. The efforts of state and local lead poisoning programs have contributed to the decline in caseloads. Increased screening may be identifying children early so that they do not enter the case management system. In addition, health care providers are better educated and more

aggressive in treating and diagnosing cases. Generally the public and real estate community are more aware of the dangers of lead poisoning. The federally mandated reduction of lead in gasoline is also reducing levels of airborne lead such that children's margins of safety are greater. Further, although significant preventive deleading is not occurring either privately or through public involvement, the real estate market in Massachusetts may be contributing to the rehabilitation of deteriorated housing which has been the primary source of poisoning.

Despite the good news about declining incidence rates, case management loads are predicted to rise again effective fiscal year 1987. Fiscal year 1986 incidence figures employed a poisoning threshold of 30 ug/dl which, beginning in fiscal year 1987 will be revised downward to 25 ug/dl as recommended by the Centers for Disease Control.

First quarter fiscal year 1987 figures confirm the predicted upswing with a 132 percent rise from the same period last year. A total of 1,175 new cases have been identified with 19 class IVs, 243 class IIIs, 671 class IIs and 242 others. A great many of these cases have not been confirmed with follow-up blood tests, so extreme caution should be used in relying on them. On the other hand, quarterly reporting is never done on a confirmed basis so one can compare this year's results with previous years'.

From its inception, CLPPP has performed limited direct screening to identify children with elevated lead levels. Responsibility for directly targeted screening has been borne by federally funded projects in high risk communities. Over the past six years, screening rates have risen from levels in the thirtieth percentile to a high of 45 percent in fiscal year 1986. This is due both to increased screening on the part of health care providers and direct targeted screening by local programs. This 45 percent figure is an average rate. Local penetration rates, especially those in areas served by the Maternal and Child Health projects are much higher. (See Charts B, E, and F, pp. 13, 16 and 17.)

Legal enforcement efforts have also worked well on a decentralized basis with attorneys retained on an as-needed basis. Legal enforcement is used not to punish property owners or to seek damages but to make use of expedited criminal court procedures to obtain compliance with inspectional and deleading orders. Thus fewer cases are being taken to trial, but more preliminary hearings, so called "show cause" hearings, are held. For a summary of enforcement activities please see Table G on p. 18.

With conservatively 59 percent of Massachusetts dwellings containing lead paint, or roughly 1.2 million units, clearly a monumental effort, both in terms of funding and personnel, would be required to remove it. A survey of twenty-three Massachusetts towns containing estimates of leaded housing is attached as Chart H on p. 19. Chart I on p. 20 shows that from 1982 to mid-1986, through joint efforts of the CLPPP and federally funded projects only 2,500 units have been deleaded, bringing the total from the 1970s up to about 15 to 20,000 units. Obviously, these efforts are a mere drop in the bucket compared to the scope of the problem. Further discussion as to what can be done to redress this historic inadequacy is contained in the Commission's recommendations under the title "primary prevention".

As CLPPP has evolved, it has sought to become less a provider of services than a coordinator of community efforts conducted at the local level. As will become apparent in the sections of the report that follow, both municipalities and the federal government have been involved in lead poisoning prevention. CLPPP, though employing and contracting with a staff capable of providing screening and inspectional services, prefers local personnel such as local public health nurses and board of health inspectors to be trained to perform these functions. With community based staff trained and available, localities will be much more capable of consistently providing needed lead abatement and treatment services.

To this end, CLPPP has conducted six major conferences on lead poisoning in the past two years. Local Board of Health members and staff were invited and attended in large numbers. Training and technical assistance have been provided to specific local code enforcement and board of health agencies in communities such as Lowell, Brockton, and New Bedford to enable them to conduct environmental follow-up. These trainings have been part of a broader public education effort which includes presentations to health care providers, realtors, attorneys, contractors, parents and tenants. Written materials have also been published and distributed.

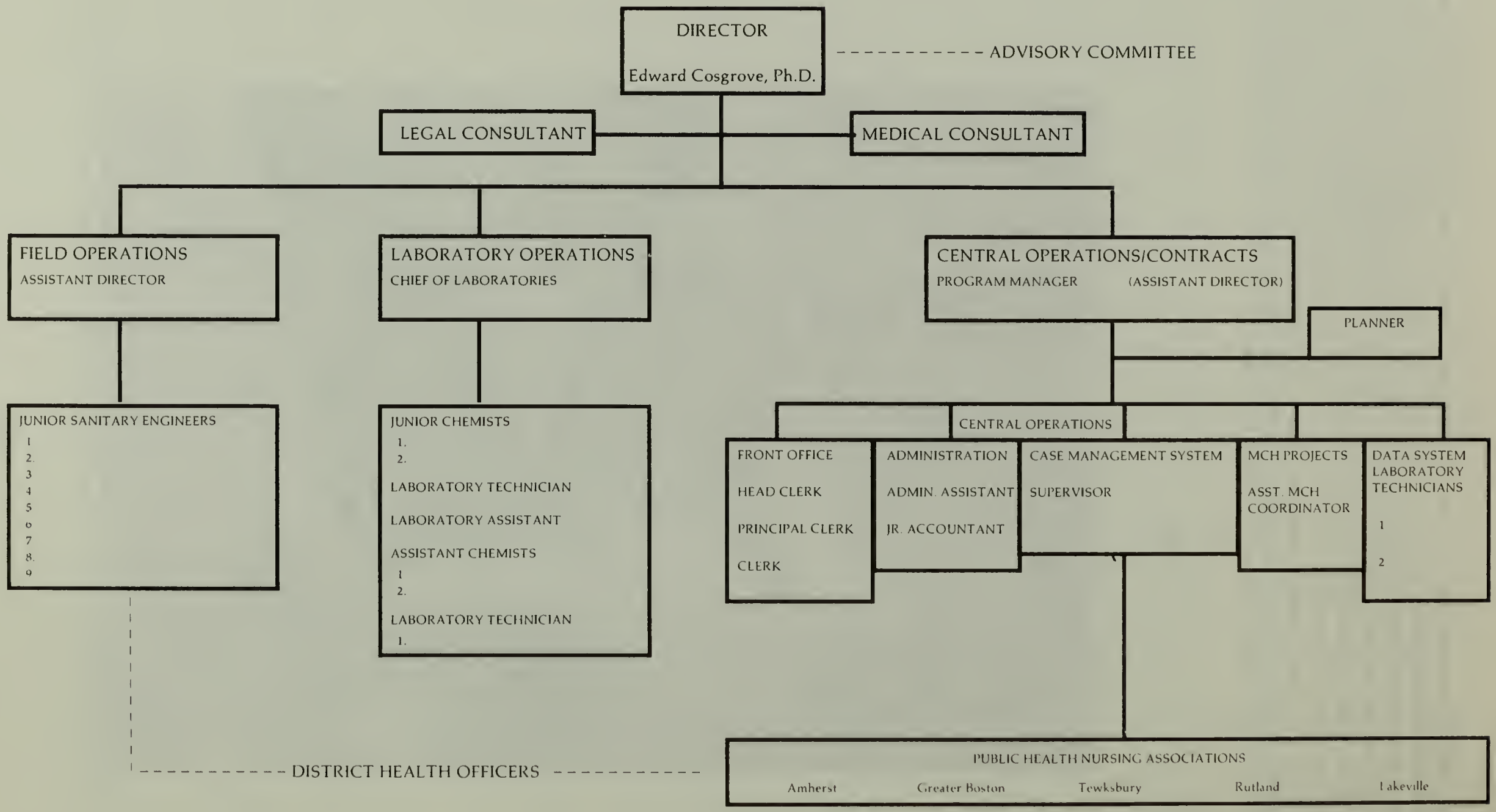
Funding for the state program has increased steadily over the years beginning in 1974 with a budget of roughly $280,000 which has risen four fold to its present level of over one million dollars. These increases have indicated a growing state commitment to lead poisoning prevention, necessitated in part by uneven federal assistance. (See Charts J and K, pp. 23 and 24.)

In 1982, CLPPP through its affiliation with the Department of Public Health's Division of Family Health Services, became an important advisor in determining how federal dollars should be spent on lead poisoning. Municipalities which formerly received direct grants from the federal government, after passage of the Omnibus Budget Reconciliation Act in 1981, were required to seek funding through the state under the new block grant

system. As such CLPPP has been in a position to attempt to underscore its administrative functions and to direct local distribution of services.

As far as future federal financial support is concerned, with the block grant system firmly in place and budget balancing the order of the day, it is unlikely that federal dollars will significantly increase for maternal and child health care nationally. In Massachusetts, the issue will be how many federal dollars will be allocated for lead poisoning prevention, amongst all the other demands for services. From Fiscal Years 1985-1987 federal funding has risen, but at a slower and slower rate. It thus will remain for Massachusetts to decide both how it will spend available federal resources, and whether additional state resources will be made available to meet the demands of an adequate lead poisoning prevention program.

A. BUREAU OF ENVIRONMENTAL HEALTH SERVICES CHILDHOOD LEAD POISONING PREVENTION PROGRAM
(as of November 1, 1985)



B. STATEWIDE LABORATORY TESTING, SCREENING AND LEAD POISONING INCIDENCE RATES (1981-1986)***

	1981	FY 1982	1983	FY 1984	FY 1985	FY 1986
# CHILDREN SCREENED	118,000	N.A.	126,933	135,000	142,000	166,900
% MA. CHILDREN 9 MONTHS - 6 YEARS	32%	N.A.	34%	36%	37%	45%
% CHANGE FROM PREVIOUS YEAR	—	—	—	6.3%	5.2%	17.5
# OF NEW CASES IDENTIFIED	—	612*	645**	2,600	1,531	1,011
STATEWIDE INCIDENCE RATE (% NEW CASES IN CHILDHOOD POPULATION)	N.A.	N.A.	N.A.	2%	1%	.6%
# BLOOD SPECIMENS ANALYZED BY STATE LAB	88,361	88,242	95,374	118,599	130,350	143,075
% CHANGE FROM PREVIOUS YEAR	—6.4%	+.1%	+.8%	+24.2%	+10%	+9.7%

*Does not include Class IIs.
**Does include some Class IIs, not all however. The case management system was not expanded to include all poisoned children until January, 1984.
***Represents blood samples received, not analyzed.

C. CHILDHOOD LEAD POISONING PREVENTION PROGRAM INSPECTIONAL ACTIVITIES (FY 1981–FY 1986)

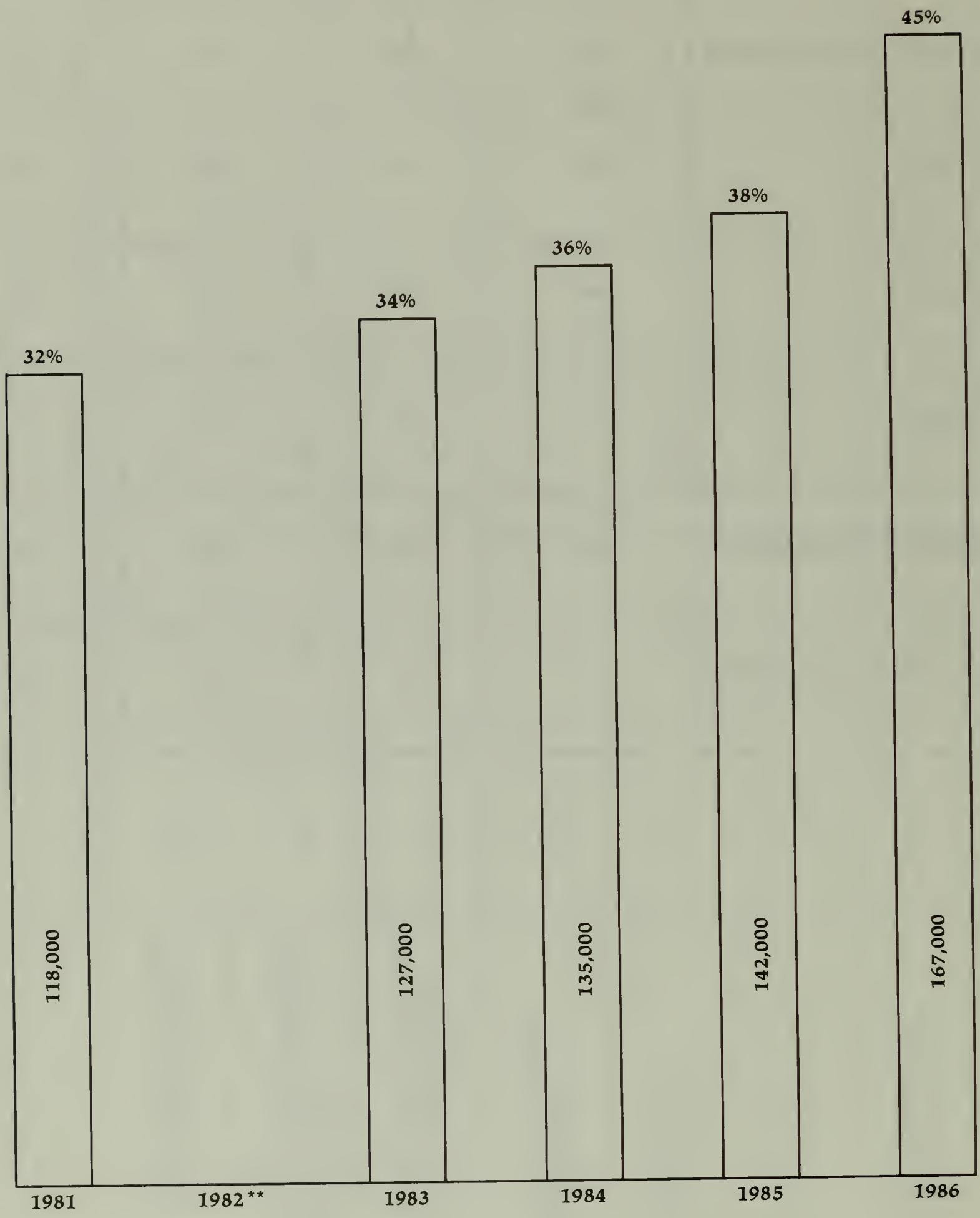
	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
INSPECTIONS IN RESPONSE TO POISONED CHILDREN	N.A.	N.A.	94*	351	500	333
INSPECTIONS ON REQUEST OF LANDLORDS, PARENTS OR AGENCIES	N.A.	N.A.	91*	149	101	144
INSPECTIONS ON REQUEST OF DAYCARE CENTERS	N.A.	N.A.	187	295	207	228
TOTAL # OF INITIAL INSPECTIONS	700	786	738	799	808	705
TOTAL # OF REINSPECTIONS	2,400	2,247	2,425	2,574	2,488	2,548
TOTAL # OF INSPECTIONS	3,100	3,033	3,163	3,373	3,296	3,253
INSPECTIONS PER STATE INSPECTOR	387.5	337	287.5	374	366	361.4

* Feb.-June 30, 1983

D. NUMBER OF CHILDREN LEAD POISONED, THEIR MEDICAL CLASSIFICATION AND TREATMENT (FY 1983–FY 1986)

	FY 1983	FY 1984	FY 1985	FY 1986
# OF NEW CASES IDENTIFIED	645	2,600	1,531	1,011
# CLASS II	98	717	1,076	604
# CLASS III	228	387	397	275
# CLASS IV	21	52	58	47
# INPATIENT CHELATIONS	125	154	242	338
# OUTPATIENT CHELATIONS	60	98	130	127

E. PERCENT OF MASSACHUSETTS CHILDREN AGES 9 MONTHS — 6 YEARS SCREENED FOR LEAD POISONING (1981-1986)*



* Children screened by the Childhood Lead Poisoning Prevention Program and federally assisted Maternal and Child Health grantees.

**Data not available.

F. SCREENING PENETRATION
PERCENT OF CHILDREN UNDER 6 YEARS OF AGE SCREENED

MCH PROJECT	COMMUNITY	1981	1983	1985
Boston	Boston	86	83	91
North Shore Children's Hospital	Lynn	37	43	64
Merrimack Valley	Lawrence	49	54	65
MV	Haverhill	38	45	56
MV	Lowell	26	42	45
Southeastern Massachusetts University	New Bedford	50	63	83
SMU	Fall River	28	25	25
SMU	Brockton	58	57	71
SMU	Taunton	11	18	34
Springfield Visiting Nurse Association	Springfield	29	32	55
Holyoke VNA	Holyoke	33	39	99
Worcester	Worcester	38	23	82

G. CHILDHOOD LEAD POISONING PREVENTION PROGRAM ENFORCEMENT ACTIVITIES (FY 1981–FY 1986)

	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
# CASES CLOSED ON COMPLETION OF DELEADING	300	300	365	480	429	421
# APPEARANCES BY INSPECTORS AT SHOW CAUSE HEARINGS	N.A.	1,163	1,206	1,486	1,547	1,594
# CASES WHICH CAME TO TRIAL	N.A.	N.A.	11*	77	48	43

* Feb. 1, - June 30, 1983

H. HOUSING STOCK WITH LEAD PAINT IN MASSACHUSETTS

City	Total Dwelling Units	Units Before 1940	Units Built 1940-1949	Total Units With Lead Paint*	% of Units With Lead Paint
Arlington	17,921	10,562	1,684	11,401	63.6%
Boston	232,406	179,391	18,143	187,573	80.7%
Brockton	28,752	17,679	1,360	18,294	63.6%
Brookline	23,307	15,518	2,829	16,925	72.6%
Chelsea					93.6%**
Chicopee	20,379	9,531	2,494	10,776	52.8%
Fall River	34,159	28,502	2,042	29,509	86.4%
Framingham	19,434	5,981	1,170	6,561	33.8%
Haverhill	16,108	12,945	668	13,196	81.9%
Lawrence	24,901	19,916	1,527	20,639	82.9%
Lowell	31,479	23,356	1,476	23,941	76.1%
Lynn	32,597	26,006	1,747	26,762	82.1%
Malden	19,293	14,784	1,091	15,322	79.4%
Medford	19,858	16,068	1,080	16,607	83.6%
New Bedford	36,577	29,536	2,094	30,526	83.5%
Newton	27,427	18,516	2,919	19,973	72.8%
Pittsfield	18,856	12,573	1,678	13,411	71.1%
Quincy	29,050	20,684	2,962	22,152	76.3%
Somerville	29,753	26,806	1,170	27,361	48.6%
Springfield	56,306	36,239	5,994	39,090	69.4%
Waltham	18,560	10,327	1,849	11,244	60.6%
Weymouth	15,941	6,947	2,068	7,958	49.9%
Worcester	58,569	43,555	4,067	45,302	77.3%
Totals	**849,282**	**615,420**	**65,347**	**614,523**	**71.4% average**

* Total units with lead paint: 100% of units before 1940 plus 50% of units built 1940-1949.
** Estimate from proposal submitted by Chelsea to Department of Health, Education and Welfare.

I. HOUSING UNITS DELEADED THROUGH CLPPP and MCH PROJECTS*

City	1982	1983	1984	1985	1986 To Date***	Total
Arlington	0	0	1	1	1	3
Boston	221	175	136	201	152	885
Brockton	23	17	15	10	0	65
Brookline	2	2	3	0	0	7
Chelsea	10	5	14	5	2	36
Chicopee	1	0	0	1	0	2
Fall River	6	5	2	1	0	14
Framingham	2	2	1	0	0	5
Haverhill	15	29	25	8	6	83
Lawrence**						300
Lowell**						153
Lynn	20	29	21	35	12	117
Malden	1	2	4	0	0	7
Medford	0	0	1	0	0	1
New Bedford	9	21	16	10	1	57
Newton	0	1	1	0	0	2
Pittsfield	0	0	0	0	1	1
Quincy	2	2	5	3	1	13
Somerville	9	7	1	4	9	30
Springfield	40	41	29	34	2	146
Waltham	0	1	3	3	0	7
Weymouth	2	21	0	0	0	23
Worcester	148	100	99	142	67	556
TOTAL	**511**	**460**	377	**458**	**254**	**2,513**

*Does not include houses deleaded through private voluntary action.
**Annual totals not available.
***June 30, 1986.

III. THE FEDERAL ROLE IN LEAD POISONING PREVENTION

The federal role in lead poisoning prevention has been focused in two ways. The first involves financial support for local projects established to screen and treat lead poisoned children and to inspect and delead their homes. The second is a piecemeal regulatory approach which attacks the problem of environmental lead by regulating it at its various sources e.g. air, water, paint, food, etc.

Federal Lead Poisoning Prevention Programs

The federal government enacted its first comprehensive lead poisoning prevention legislation in the same year and under similar crisis conditions as existed when Massachusetts adopted its statute. Nationally, in 1971 an estimated 200 children were dying every year from exposure to lead and 400,000 were estimated to be suffering other effects of lead poisoning.(4) Although some funding had been made available for screening and treatment of lead poisoning under the Public Health Service Act and the Social Security Act in the late 1960s, by 1971 Congress recognized the need to enact legislation to specifically address the problem of lead.

P.L. 91-695, the "Lead-Based Paint Poisoning Prevention Act" in its original form contained the following provisions:

Title I of the Act authorized grants to local governments to educate their communities regarding the hazards of lead poisoning, and to establish screening and case management programs. Title II called for the establishment of environmental abatement programs to delead hazardous surfaces. Title III required the Secretaries of Housing and Urban Development (HUD) and Health, Education and Welfare (HEW) to operate a joint research program to study the problem of lead poisoning, particularly in urban areas. Title IV of P.L. 91-695 banned the future use of lead based paint in federally constructed or assisted residential structures.

Four Massachusetts communities received federal assistance to administer lead poisoning prevention programs when the Lead-Based Paint Poisoning Prevention Act was first enacted. These were Boston, Chelsea, Somerville and Waltham. In their early years, these programs were hampered by restrictive federal guidelines that emphasized locating poisoned children without providing adequate funds to either treat them or to delead their homes. Only 15 percent of project grants could be allocated for environmental clean-up and only 10 percent could be distributed for treatment.(5)

In the years up to 1982, a number of other communities received grants including Fall River, Lawrence, Lowell, Lynn and Worcester. Many projects, however, ceased operation due to major cutbacks occurring in 1976, such that by 1981, only three federally funded projects remained.

Prior to 1982, the Act's provisions remained mostly unchanged with the exception of amendments modifying authorization levels for funding, defining a safe level of lead in paint, and permitting states to establish centralized laboratory facilities.

The most dramatic restructuring of the federal law occured in 1982 when the Omnibus Budget Reconciliation Act P.L. 97-35 consolidated the lead poisoning prevention program into a Maternal and Child Health Services Block Grant along with seven other federal health programs. (MCH hereafter).

Under the block grant program, states choose which health services to provide within major categories. To receive a share of federal block grant funding, states must spend three state dollars for every four federal dollars received through the grant.

Upon initiation of block grant funding, overall federal expenditures for maternal and child health care were reduced by 25 percent. The rationale for this major funding cut was that increased state control would reduce federal overhead without any concomitant service reduction.

On a national level, however, these predictions were not realized. Across the country, in the first year under the block grant, (FY 1982), lead poisoning prevention program budgets averaged 10 percent lower than under the last year of categorical funding (FY 1981). A 1982 survey of the ten cities with the highest documented lead poisoning problems in the United States showed that 10,000 fewer children received screening services in FY 1982 (a decline of 10 percent from FY 81).(6) If projected nationally, this resulted in at least 50,000 fewer children receiving screening services in one fiscal year alone.

Data gathered comparing federal expenditures for lead poisoning prevention for the years 1981-1983 show dramatic declines: Kentucky's revenues declined by 51 percent, Michigan's by 21 percent, Mississippi's by 18 percent and Massachusetts' by 42 percent.(7) Massachusetts avoided severe reductions in services by steadily increasing its share of total funding. (See Charts J and K, Federal and State Funding for Lead Paint Poisoning Prevention, on pp. 23 and 24.)

In 1982 only three projects received significant block grant funding. These were Boston, Merrimack Valley (serving Lawrence, Lowell, Haverhill, Andover, North Andover, Methuen and Dracut) and Worcester. (See Chart J, History of Federal Funding on p. 23 and Chart L describing the geographic distribution of services on p. 25.) Future funding decisions were made on the basis of a needs assessment performed by the Childhood Lead Poisoning Prevention Program and the Division of Family Health Services which attempted to provide an accurate description of the risk of childhood lead poisoning in the state's cities and towns. A summary of the data gathered in 1981 and an updated summary of the status of localities listed are contained on page 26.

From 1982 to the present, projects were added in Southeastern Massachusetts (covering New Bedford, Fall River, Taunton and Brockton) the North Shore (covering Lynn, Salem and Peabody), Holyoke and Springfield. Pilot screening programs were also funded in Leominster-Fitchburg, Cambridge-Somerville, and Worcester County as these areas were identified as potentially in need of further services based on the 1982 Needs Assessment. Some of these projects only provide screening and medical follow-up (Holyoke, the North Shore, and Springfield) while others have an environmental component (Boston, Merrimack Valley, Southeastern Massachusetts and Worcester.) Presently a service needs assessment is being conducted by CLPPP to ensure that regional demands are being met to the extent possible given existing resources. No significant federal funding cuts are anticipated that might curtail existing services.

As documented by the Screening Penetration Table on page 17, local screening rates have consistently risen in most major urban areas, especially those serviced by the MCH projects. Due to the infusion of additional federal funds (roughly $415,000 in Jobs Bill funding which brought the MCH block grant allocation for lead poisoning prevention to a little over a million dollars in fiscal year 1984), direct door to door and fixed site screening has increased dramatically. Direct targeted screening from the inception of the block grant system, on the other hand, has been fairly steady at 12,000 to 14,000 children screened annually. In sum, because of increased funding as well as substantial outreach to medical providers both private and public, screening services for lead poisoning detection have greatly expanded throughout the state.

Numbers of children in case management systems have stabilized or declined. MCH activities as well as certain external factors have contributed to this development. MCH screening, education and liaisons with child nutrition programs have certainly contributed. Other factors such as increased screening statewide, reduced levels of lead in gasoline, more rehabilitation of housing, as well as increased state funded case management and nutritional programs have all played a role.

MCH environmental and enforcement activities have for the most part declined in fiscal year 1986 from 1985 levels. (See summary Chart O, p. 28.) These reductions have occurred despite minor increases in funding from 1985-1986. These reductions reflect a shift in focus as MCH projects adjust to declining numbers of severely poisoned children. Environmental and enforcement activities have generally been triggered as a necessary follow-up component to the care of these children. As fewer poisoned children are entering the case management system, more effort is going into counseling, skilled nursing services, primary prevention activities, such as inspection of day care centers and homes without poisoned children, and training of non-staff to perform screening and inspections.

Notably only Boston and the Hampden/Hampshire County service areas have funds set aside to subsidize deleading. This gap is exacerbated by the lack of deleading personnel on staff at any of the local projects. Financial limitations have severely limited any broad scale program support for private deleading efforts.

In sum, local projects have made substantial inroads into meeting both screening and case management objectives, although many have complained of the need for more door to door screening to catch children who fall outside the medical care system. As screening and case management goals are met, continued progress can be made in the areas of environmental abatement and education to prevent lead poisoning in these communities rather than to identify and treat its victims.

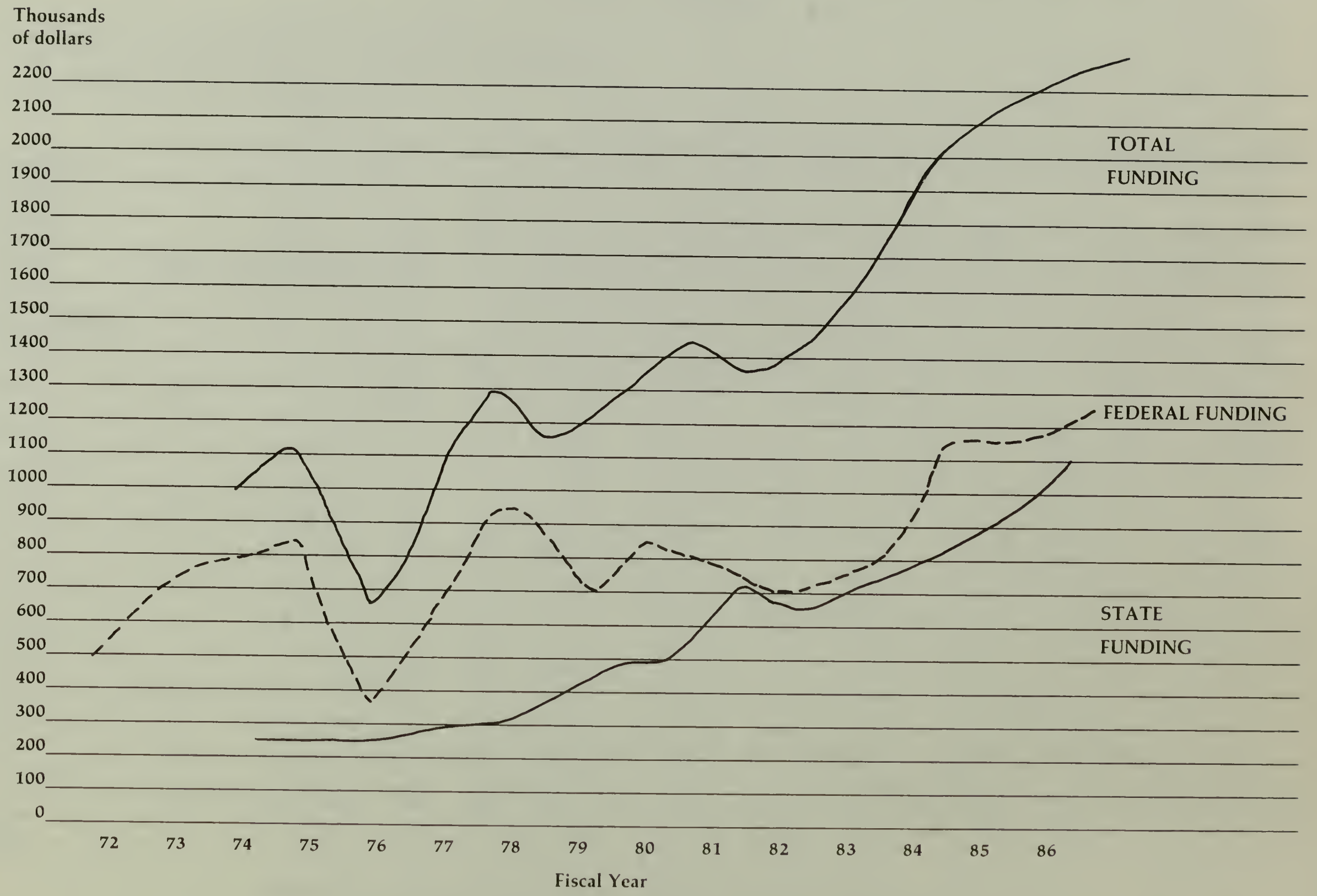
J. RECIPIENTS AND AMOUNTS OF STATE AND FEDERAL APPROPRIATIONS FOR LEAD PAINT POISONING PROGRAMS IN MASSACHUSETTS (a)

Federal Grant Recipient	1972	1973	1973-74	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
State Laboratory	$ —	$ —	$40,000	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Boston	352,133	327,547	—	348,460	415,467	206,033	378,331	383,709	383,000	468,630	439,399	410,804	391,644	460,000	420,066	431,184
Cambridge	—	—	49,927	—	—	—	—	—	—	—	—	—	—	9,000	—	—
Chelsea	47,848	103,595	—	45,737	—	—	—	150,000	—	—	—	—	—	—	—	—
Fall River	—	—	—	102,400	126,200	43,820	118,573	130,700	—	—	—	—	—	—	—	—
Holyoke VNA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,612	7,514
Lawrence	—	—	—	—	—	—	98,848	129,848	199,832	230,000	179,805	—	—	—	—	—
Leominster/Fitchburg	—	—	—	—	—	—	—	—	—	—	—	—	—	54,000	—	—
Lowell	—	55,073	—	120,314	152,744	70,262	61,098	—	—	—	—	179,605	199,481	231,000	258,314	279,094
Lynn (No. Shore)	—	—	—	92,001	97,994	33,897	112,846	117,346	—	—	—	—	—	—	33,082	52,156
Somerville	73,407	71,687	—	72,651	—	—	—	—	—	—	—	—	—	—	—	—
Southeastern MA	—	—	—	—	—	—	—	—	—	—	—	—	22,000	105,000	107,614	120,145
Springfield (b)	—	—	—	—	—	—	—	—	—	—	—	—	25,000	77,950	55,607	45,974
HAP, Inc.	—	—	—	—	—	—	—	—	—	—	—	—	—	45,800	40,953	35,063
Waltham	35,073	23,324	—	14,541	—	—	—	—	—	—	—	—	—	—	—	—
Worcester	—	—	76,411	—	59,961	29,049	73,080	75,154	119,858	115,727	116,548	120,805	—	85,000	51,290	54,358
Administration/Other Services to CLPPP (c)	—	—	—	—	—	—	—	—	—	—	—	—	—	160,950	194,462	182,682
Total Federal Funding	$508,461	$581,226	$166,338	$796,104	$852,366	$383,061	$842,776	$986,757	$702,690	$814,357	$735,752	$711,214	$748,125	$1,198,700	$1,183,000	$1,208,170
CLPPP State Appropriations	—	—	—	280,129	280,168	272,078	291,361	311,857	450,000	485,980	706,662	653,000	713,000	791,699	953,384	1,137,000
Total State and Federal Funding for Lead Poisoning Prevention	$508,461	$581,226	$166,338	$1,076,233	$1,132,534	$655,139	$1,134,137	$1,298,614	$1,152,690	$1,300,337	$1,442,414	$1,364,214	$1,461,125	$1,990,399	$2,136,384	$2,345,170

(a) Figures for FY 82-86 do not include Community Development Block Grant Funds
(b) FY 83 — Springfield Health Department — $25,000
FY 84 — ($50,000 Springfield Health Department, $27,950 Springfield Visiting Nurse Association)
FY 85 — (Funds went to Springfield Visiting Nurse Association, $0 to Springfield Health Department)
(c) Includes administrative salaries and support for case management, temporary shelter, screening and supplies, and legal services provided through State CLPPP

K. FEDERAL AND STATE FUNDING FOR LEAD POISONING PREVENTION

FY 1972 — FY 1986



L. THE GEOGRAPHIC DISTRIBUTION OF SERVICES PROVIDED BY MCH LEAD PROJECTS FOR FISCAL YEAR 1986

PROJECT	COMMUNITIES SERVED
Boston LPP	City of Boston
Holyoke VNA	Holyoke
Merrimack Valley	Lawrence, Lowell, Haverhill, Andover, North Andover, Methuen, Dracut
North Shore Childrens Hospital	Lynn, Salem, Peabody
Springfield Visiting Nurses	Springfield
Southeastern Massachusetts Univ.	New Bedford, Fall River, Taunton, Brockton
Worcester Health Department	City of Worcester
Housing Allowance Program	Hampshire, Hampden Counties

M. PRESENT STATUS OF MASSACHUSETTS CITIES AND TOWNS WHERE OVER FIVE PERCENT OF CHILDREN TESTED SHOWED ELEVATED LEVELS OF ABSORBED LEAD IN 1981*

Town	Number of tests (Jan.-Nov. 1981)	FY86	Number High (Pb≥30) (Ep≥50) (Jan.-Nov. 1981)			Percent High (Class II-IV) (Jan.-Nov. 1981)	FY86
Abington	107	300	7	0		6.5	.00
Athol	136	206	12	1		8.8	.49
Boston****	5,218	35,189	304	398		5.8	1.13
Brockton	3,747	3,759	189	23	(29)***	5.0	.61
Carver	194	206	10	1		5.2	.48
Chelsea	1,067	726	63	1	(9)	5.9	.14
Clinton	276	309	22	0	(1)	8.0	.32
Dudley	179	180	9	0		5.0	.00
Everett	337	523	18	1		5.3	.19
Fitchburg	790	739	45	11		5.7	1.49
Framingham	492	582	25	2		5.1	.34
Franklin	221	255	13	0		5.9	.00
Haverhill**	267	1,000	52	13	(3)	19.5	1.30
Holyoke	947	2,146	97	20	(19)	10.2	.93
Lawrence**	2,019	3,380	151	17	(14)	7.5	.50
Lowell**	138	2,343	41	15	(13)	30.0	.64
Lynn	1,699	4,681	158	33	(32)	9.3	.70
Marshfield	132	334	7	0		5.3	.00
Methuen	129	301	28	1		21.7	.33
Natick	199	172	16	2		8.0	.69
Needham	146	279	8	0	(1)	5.5	.00
New Bedford	3,130	4,120	195	33	(13)	6.2	.80
Newburyport	110	97	12	2		10.9	2.06
Newton	1,042	1,156	55	1	(1)	5.3	.09
North Adams	255	366	13	5		5.1	1.37
North Attleboro	304	294	17	0		5.6	.00
Plymouth	504	730	30	5	(2)	6.0	.68
Revere	490	749	29	2	(2)	5.9	.27
Salem	665	841	34	6		5.1	.71
Springfield	2,835	3,980	332	21	(9)	11.7	.53
Taunton	312	1,084	26	5		8.3	.46
Waltham	457	539	24	1		5.2	.19
Webster	457	353	31	0		6.8	.00
Westfield	218	489	11	0		5.0	.00

All data includes confirmed and unconfirmed results.

*Table includes towns with 100 or more test results only. Except where otherwise indicated results are from the Childhood Lead Poisoning Prevention Program, January 3, 1981 to November 19, 1981. Results include tests classified "IB".

**Statistics submitted by the federally-funded program in the area. Data from January 1981 to September 18, 1981.

***Number in parenthesis indicates number of children in CDC Classes II-IV (confirmed and unconfirmed) for period July 1, 1985 to September 30, 1985; this number not included in calculation of percent.

****Boston data is for the period July 1, 1985 to June 30, 1986.

N. MCH LEAD PROJECTS ACTIVITIES SCREENING/CASE MANAGEMENT (FY 1984–FY 1986)

PROJECT	TOTAL NO. CHILDREN SCREENED			NO. SCREENED BY PROJECT			TOTAL NO. CLASS II - IV		
	FY 1984	FY 1985	FY 1986	FY 1984	FY 1985	FY 1986	FY 1984	FY 1985	FY 1986
BOSTON	25,739	29,925	29,356	875	1,035	1,103	443	507	337
HOLYOKE	—	—	1,547	—	—	1,547	—	—	23
MERRIMACK VALLEY	6,603	5,050	3,619	6,370	4,821	3,157	211	177	42
NORTH SHORE	—	—	4,038	—	—	1,349	—	—	46
SOUTHEASTERN MASS. UNIVERSITY	3,855	4,745	3,775	3,855	4,745	3,775	63	54	35
SPRINGFIELD VNA	3,866	1,735	352	1,350	1,735	352	53	34	3
WORCESTER	6,666	8,161	9,658	1,507	1,041	1,062	97	71	72

O. MCH LEAD PROJECTS ENVIRONMENTAL/ENFORCEMENT ACTIVITIES (FY 1984–FY 1986)

PROJECT	NO. INITIAL INSPECTIONS			NO. REINSPECTIONS			NO. COURT APPEARANCES			NO. UNITS DELEADED		
	FY 1984	FY 1985	FY 1986	FY 1984	FY 1985	FY 1986	FY 1984	FY 1985	FY 1986	FY 1984	FY 1985	FY 1986
BOSTON	291	292	205	1,179	1,801	1,242	745	1,369	544	141	144	152
HOLYOKE	—	—	N.A.	—	—	N.A.	—	—	N.A.	—	—	N.A.
MERRIMACK VALLEY	233	164	126	1,244	1,925	1,026	609	723	325	168	156	113
NORTH SHORE	—	—	N.A.	—	—	N.A.	—	—	N.A.	—	—	N.A.
SOUTHEASTERN MASS. UNIVERSITY	10	63	23	13	253	92	10	184	81	1	28	13
SPRINGFIELD VNA	41	N.A.	N.A.	123	N.A.	N.A.	70	N.A.	N.A.	24	N.A.	N.A.
WORCESTER	236	159	134	692	1,168	886	186	338	268	92	130	101

Federal Regulation of Lead in the Environment

According to a General Accounting Office summary, "no fewer than 16 separate federal agencies operating under at least eight separate statutes, administer programs designed to limit human lead exposure."

These include but are not limited to:

- the Food and Drug Administration, which regulates lead content in food;
- the Consumer Product Safety Commission, which regulates lead content in new paint for use on items accessible to children;
- the Environmental Protection Agency, which regulates allowable lead in gasoline, air, and drinking water;
- the Occupational Safety and Health Administration, which regulates occupational exposure to lead; and,
- the Department of Housing and Urban Development, which regulates inspectional and deleading requirements in federally owned and assisted housing. (8)

Federal agencies have as a whole moved slowly to address the problem of lead in the environment, and in many instances have acted only under threat of litigation. A case in point is the airborne lead standard. The EPA, charged with a duty to name pollutants known to be hazardous within 30 days of passage of the Clean Air Act in 1970, to establish a safe level of lead exposure within two years, and to achieve those levels within six years failed to do all of the above until 1978 following litigation instituted by the Natural Resources Defense Council in 1972. (See *NRDC v EPA* 411 F. Supp. 864 (S.D.N.Y. 1976), aff'd 545 F. 2d 320 (2d cir. 1976).

Prime contributors to lead in air are auto emissions from cars using leaded gasoline. Again litigation prompted EPA to regulate this contaminant, and a standard proposed in 1972 was not implemented until 1978. When appropriate lead in gasoline reductions went into effect, average blood lead levels dropped dramatically (37 percent) in the general population of Americans. Air quality levels throughout Massachusetts have met national standards since 1980 and are still declining. In 1985 further reductions were mandated and lead in gas may be banned altogether in 1988.

EPA's movement to regulate lead in drinking water has also been lethargic. A lead in water standard was first set in 1974 at 50 parts per billion. Yet monitoring of this standard which was identified in 1977 by the National Academy of Sciences as inadequate has been minimal. Monitoring is performed at most once a year at locations such as city halls or treatment plants rather than at a variety of sites including private homes. Despite a 1976 lawsuit instituted by the Natural Resources Defense Council, EPA has not stepped up monitoring and has waited eight years since the National Academy of Sciences report to lower the lead in water standard to 20 parts per billion. It has been estimated that given implementation guidelines, communities will be expected to conform to these standards by 1991 at the earliest. This timeline is accepted despite a draft report soon to be released by EPA stating that some 38 million people nationwide live in households where drinking water samples sometimes exceed recently proposed safe lead levels.

Another notable limitation in the federal government's response to the lead threat is its failure to set national standards for all lead bearing housing. In its Lead-Based Paint Poisoning Prevention Act, the federal government identifies lead paint in federally owned or assisted housing as hazardous, but asserts no jurisdiction over privately owned housing. In this, it radically departs from the pattern established by environmental legislation such as the Clean Air Act which sets federal standards to which states and localities must adhere. The federal government then monitors these standards to ensure that they are met.

In the case of lead, if states and localities do not act to avert the threat of lead poisoning the federal government levies no sanctions. This legislative attitude has persisted despite the national NHANES survey conducted from 1976-80 which estimated 4 percent of the nation's children under six or 675,000 children to be lead poisoned under a standard that has since been lowered.

Given the less than prompt and comprehensive federal role in environmental regulation of lead, states and municipalities must assert a leadership role in tackling these hazards. They can do so by setting standards which meet or exceed federal guidelines and by vastly increasing local participation and monitoring to ensure that sources of lead contamination are controlled. They can also join private environmental protection groups in urging the federal government to properly assume the regulatory responsibilities required of them in protecting the national population against environmental contaminants such as lead.

IV. COMPARISON BETWEEN STATE PROGRAMS

At present, lead poisoning prevention activities exist in at least forty states. Legislators in eight states, (Delaware, Illinois, Kentucky, Massachusetts, New Jersey, Rhode Island, South Carolina, and Wisconsin), have passed legislation on lead, while statewide lead programs operate in twelve states, (Arkansas, Delaware, Idaho, Illinois, Louisiana, Maryland, Massachusetts, New Jersey, Pennsylvania, Rhode Island, South Carolina, and Texas). Twenty-four states report having local programs on lead and nineteen states maintain special programs to address the issue.

A number of surveys have compiled statistics on the various lead programs across the nation. The data, however, are not uniform and as such cannot be readily compared. While it is generally accepted that the Massachusetts lead program far exceeds other states in terms of comprehensiveness, it is useful to examine components of other programs in order to discover innovative approaches. The degree to which lead programs incorporate these elements is contingent upon their priorities and available resources.

Outreach and Education

The Massachusetts lead program has provided informal and formal lectures and presentations for health care providers. An accredited in-service training program developed by CLPPP has been given to over 2,500 health care providers over the past 3 years. In addition, pamphlets which address lead treatment have been published and distributed. However, little effort has been directed toward the education of medical school enrollees. Rhode Island, on the other hand, conducts classes on the subject for nursing students and requires medical students to spend one day in a lead clinic. South Carolina has attempted to train medical students in chelation therapy and in St. Paul, lead poisoning is included in general medical programs.

In terms of community education, CLPPP has developed written information and/or workshops for tenants, parents, lawyers, realtors, inspectors, and contractors. Other states such as New Jersey, New York, and Rhode Island have made use of various media forms including films, television, and radio broadcasts to reach the public. New York has also enclosed information on the hazards of lead with welfare checks and registration packets for summer recreation programs.

Screening

Massachusetts screening efforts rely heavily upon private physicians, neighborhood health centers, and hospital out-patient clinics. EPSDT, WIC, Headstart, and day care centers also are encouraged to screen. In addition, MCH local programs perform door-to-door screening, a method which permits targeting of high risk populations or areas.

Most states have not developed such an extensive screening network. (See Table P, p. 31.) Only the state of New York performs more screenings, although Massachusetts has done more on a per capita basis. One way in which New York has increased its ability to screen and target has been through utilization of a full-time mobile unit.

Environmental Abatement

No state has more stringent lead abatement guidelines than those of Massachusetts. Many states such as Rhode Island only require the removal or covering of cracked or peeling paint.

However, it appears that some programs have surpassed Massachusetts in terms of the types of dwellings inspected and abated. The South Carolina cities of Columbia and Charleston have undertaken the gradual inspection of all public housing. In addition, foster homes are routinely inspected and subsequent abatement is required as a condition of licensure.

P. NUMBER OF CHILDREN, AGES 1-5, SCREENED FOR LEAD, 24 STATE HEALTH AGENCIES, FY 1983

State	Number of children, ages 1 through 5 years, screened for lead toxicity
Total	**564,755**
Arkansas	4,787
Delaware	5,187
District of Columbia	15,750
Idaho	380
Illinois	25,340
Indiana	1,265
Iowa	2,478
Kansas	2,642
Kentucky	7,416
Louisiana	51,804
Maryland	45,000*
Massachusetts	130,000*
Michigan	14,700
Minnesota	1,816
Missouri	11,778
Nebraska	2,090
New York	160,960
North Carolina	14,000
Pennsylvania	19,994
Rhode Island	10,364
South Carolina	23,832
Virginia	8,401
West Virginia	449
Wisconsin	4,322*

*Estimated by the respondent.

Source: Special Report: State Health Agency Lead Poisoning Prevention Activities, 1983. Prepared by the Public Health Foundation, January, 1986.

V. MAJOR FINDINGS AND ISSUES FOR THE FUTURE

1. *The numbers of seriously lead poisoned children have dropped significantly during the past 15 years.*

No child has died of lead poisoning in the Commonwealth in the past 15 years. At the same time, the number of children suffering serious damage from lead poisoning has decreased dramatically. These facts stand in the context of vastly increased blood screening in the Commonwealth. In 1981, 34 Massachusetts cities and towns were identified with over five percent of children showing elevated levels of lead absorption; in 1986, not one of those communities had a percentage rate over 2.06 percent, and only five had rates above one percent.*

Several factors are critical in understanding this drop. The 50 percent reduction of lead in gasoline mandated by the EPA between 1976 and 1980 caused an estimated 37 percent decrease in lead levels in blood, from 14.6 ug/ml to 9.2 ug/ml. Because of this drop, children are less likely to reach dangerous thresholds of poisoning when exposed to lead from other sources. Further action to reduce the use of lead in gasoline promises further benefits.

The commitment of the Commonwealth to extensive screening, case management, and lead abatement efforts has also worked to identify potentially poisoned children before they reach the danger stage. While awareness of the lead law and the dangers of lead poisoning is nowhere near where it should be, it is still greater in Massachusetts than in any other state because of screening activities as well as enforcement requirements when a poisoned child is identified.

This trend suggests that lead poisoning prevention efforts in the Commonwealth are achieving measureable and positive results. The benefit in human terms in preventing serious poisoning is immeasureable; certainly, the evidence suggests that current efforts should continue at least at present levels. The Commission also believes that our progress demonstrates that significant efforts to prevent lead poisoning are worthwhile, and that increased efforts, as suggested in our recommendations, hold the promise of even greater progress in diminishing this threat to our children.

2. *The damage to children and adults from lower levels of exposure to lead is much greater than realized in 1971.*

Our understanding of what constitutes dangerous levels of lead in blood has changed dramatically over the past 30 years. Before the mid-1960s, any level below *60 ug/ml* was not considered serious; by the mid-1970s, the threshold was reduced to *30 ug/ml*, a drop of 50 percent. In January, 1985, the Centers for Disease Control recommended a lowering of the definition of an elevated blood lead level from *30 to 25 ug/dl.* Massachusetts and many other state health departments have since adopted this lower standard. First quarter results since the new standard's adoption in Massachusetts show caseloads doubling from the same period last year, indicating that steps have to be taken in addition to those already implemented to meet this new demand.

A growing awareness exists that small amounts of lead in the blood stream can cause irreversible (though sometimes subtle) damage; and a number of important studies in the past decade have documented this fact. The most noted of these was the landmark study by Dr. Herbert Needleman in 1979 in which by examining children in Chelsea and Somerville over a period of several years he found that low levels of lead in children resulted in lower IQs and behavioral disorders in school.

A significant number of other studies also support these conclusions, citing damaged learning, impulse control, and dexterity in children from lower levels of exposure to lead. Perhaps most ominous, ongoing studies by researchers at the Brigham and Women's Hospital have documented that lead levels in the blood of mothers' umbilical cords "significantly predict a child's performance" on child development tests, placing pregnant women in a risk category with young children regarding exposure to lead. In addition, hypertension strokes, and heart attacks in adults have also been traced to lead exposure.

This unsettling information indicates to the Commission that significant steps must be taken to address the problem of lower levels of exposure to lead. The decline in "symptomatic" cases of lead poisoning should not suggest that overall efforts to combat lead poisoning can be relaxed, but rather should call for a greater effort to deal with the insidious effects of lower levels of poisoning.

3. *The sources of lead poisoning are more varied than understood in 1971.*

At the time of the Massachusetts lead law's adoption in 1971, the focus of lead poisoning was almost exclusively placed on the problem of lead paint in interior residences. The related problems of lead in *gasoline, soil, air, housedust, water,* and in other sources were neither understood nor addressed. Since then a vast amount of research and work has been done which suggests that attention must also be paid to these other sources if the risks of lead poisoning are to be significantly reduced.

*1981 figures include Ib classified children, 1986 figures do not. 1981 figures may also be inflated because they show the number of high tests as opposed to the number of confirmed poisoned children.

No mention is made in the Massachusetts lead law of the problem of lead in *water*, yet research released by the Environmental Protection Agency this fall concluded that *one in five* Americans is exposed to dangerously high levels of lead in drinking water. The impact of this consumption includes lower intelligence levels in affected children, hypertension and strokes in adults, and higher risks of pregnancy complications in women. While some action has been taken to reduce the risk of lead exposure from water in the 43 Massachusetts Water Resources Authority communities, especially in the formerly designated MDC communities, other responses across the State have been uneven. Further, public education on the risks of lead in water and on simple steps which can be taken to reduce those risks has been nil.

Significant action has been taken to reduce airborne lead, caused by leaded *gasoline*. As earlier mentioned, the 50 percent drop in lead in gasoline between 1976 and 1980 caused a 37 percent reduction in average blood lead levels in adults. Future federal action to further reduce lead in gasoline is uncertain, in spite of the assessment of one EPA analyst who concluded that the earlier drop will result in 50,000 fewer heart attacks, strokes, and deaths between 1980 and 1990. "When you compare this to other controllable environmental toxins", EPA's Joel Schwartz told the July 15, 1985 *Boston Globe*, "damn few things cause 50,000 cases".

Understanding of the threat posed by lead in *soil* has been more recent. The CDC has concluded that lead in soil can be responsible for increased lead levels when the concentration in the soil exceeds 500 to 1000 parts per million. The city of Boston's Office of Environmental Affairs has identified 28 "hot spots" in several neighborhoods where soil samples average over 2,000 ppm and some samples exceed 4,000 ppm. Numerous studies have established a link between lead in soil and lead poisoning in children. Yet the State's CLPPP has no existing authority to mandate soil removal, even in cases when the connection between lead in soil and a poisoned child is clear. As with the removal of lead paint, soil removal and disposal raise many serious safety and environmental concerns, which have only begun to be addressed by CLPPP, the Boston Program, and other concerned parties.

Exposure to lead from *dust* has been traced to numerous sources, including soil and paint. Again, the CDC defines lead concentrations greater than 500 to 1,000 ppm as dangerous. Increasing amounts of housing rehabilitation in older, urban neighborhoods have resulted in serious poisoning cases due to neglect of basic safety precautions. Public education on proper safety procedures to be taken during housing rehabilitation has been woefully inadequate.

Our understanding of the sources and the hazards of lead poisoning has grown significantly during the past 15 years. While state and local programs have attempted to incorporate this understanding into their prevention efforts within their existing statutory authority, road blocks have been encountered because of the enabling statute's exclusive focus on lead-based paint as the source of lead poisoning. A broader interpretation and programmatic effort is needed to deal with lead poisoning in the future.

4. A major goal of the 1971 law, preventive deleading, has not been achieved to any significant extent. Poisoned children are used as indicators for dangerous levels of lead. No meaningful incentives exist to encourage preventive deleading.

It was understood in 1971 that using children as biologic indicators for the presence of lead was not acceptable public policy. Section 197 specifically requires all residential property owners to delead "whenever a child or children under six years of age reside therein..." Section 193 called for universal screening of "all children under six years of age residing within the Commonwealth for the presence of lead poisoning." Section 194 further called for a "comprehensive program for detection of sources of lead poisoning" requiring the identification of "all dwellings in which the paint, plaster, or other accessible substance contains dangerous amounts of lead."

But these ambitious goals were conditioned. The requirements in Sections 193 and 194 were to be carried out "to the extent permitted by appropriations"; and no financial or administrative mechanism was established to enforce Section 197, except when a poisoned child was brought to the attention of local or state health authorities and the courts.

The major results of this failure to conduct preventive deleading are threefold:

- out of approximately 1.2 million housing units in the Commonwealth containing lead, less than 20,000 have been deleaded in the past 15 years in accordance with state and local authorities; local deleaders report very little deleading carried on beyond this grouping:
- The burden of dealing with the lead poisoning crisis has fallen almost exclusively on three groups: poisoned children, the parents of poisoned children, and the owners of residential property in which poisoned children reside;
- massive discrimination exists in the private rental housing market against families with children under six years of age, to the extent that some landlords now advertise the fact that their units contain lead paint.

Were the Commonwealth to continue deleading efforts at its current rate, we would see the housing stock fully deleaded around the year 2,571. We also could expect to see many, many thousands of children suffer permanent damage from lead poisoning in the years to come.

For the most part, the property owners who used lead paint in their buildings (with no public health warnings to the contrary) are no longer the current owners of these properties. Public policy which treats property owners in an exclusively punitive manner has been shown to be unsuccessful in meeting the overall goals of the lead law. The costs of the lead poisoning problem will be shared by society in one of two ways: either by providing public financial incentives and support to share in the cost of deleading, or by sharing in the economic and human costs of caring for poisoned children.

5. While children in all socio-economic and geographic groups are at risk of lead poisoning, certain geographic areas have been proven to have an excessively high incidence of lead poisoning.

The risks of lead poisoning are spread across many different groups of children in our nation — but some more than others. The federal NHANES II study showed that black children, poor children and inner-city children were all disproportionately affected by the lead problem. While two percent of white children nationally were found to have elevated blood levels (30 ug/ml, the previous standard), 12.2 percent of black children were found in this category. The study also discovered a strong inverse relationship between family income and elevated lead levels in children's blood.

Evidence gathered by Boston's Office of Environmental Affairs points in the same direction using local data. Four Boston neighborhoods — Roxbury, Dorchester, Jamaica Plain, and Mattapan, contain approximately 56 percent of the at risk children in the City, yet have 87 percent of the City's lead poisoning cases. Further, 16 census tracts within these neighborhoods contain 18 percent of the at-risk children, but 41 percent of the actual cases of lead poisoning.

Boston's path-breaking research has also identified 28 small areas, each two to three blocks in size, which have produced an average of 33 lead poisoned children each over a five year period. These small areas have also been found to contain lead contaminated soil at average levels of more than 2,000 parts per million.

Sections 193 and 194 of the Massachusetts lead law require universal screening and inspection of all children and homes in the Commonwealth, subject to appropriation. Absent adequate appropriations (which were not forthcoming), the program was directed to give priority in examination of children and inspection of dwellings to those in "areas where significant numbers of lead poisoning cases have been reported, and in which children under six years of age reside."

While the screening program has been carried out in this manner, more so than in any other state, the requirement for targeted inspections has not. Absent of a statewide requirement for mandatory deleading at the time of property transfer or apartment vacancy, a requirement the Commission considered but could not adopt, the targeting of areas where high numbers of lead poisoned children have been identified is considered an essential element of any preventive deleading strategy.

6. The quality and safety of deleading services in the Commonwealth have not been adequately addressed.

Property owners and tenants too often have been the unwitting victims of poor and unsafe deleading practices by unlicensed, untrained, and uninsured contractors. Cases have been reported to the Commission of children suffering repoisoning after chelation therapy by returning to residences where an improper deleading job was performed. Other cases of poisoning have taken place *during* the deleading process when proper safeguards to protect children were not taken.

No licensing program exists in the Commonwealth, nor in any other state, for deleaders or inspectors. The Department of Public Health has submitted legislation without success for the past several years to create such licensing authority. The State Lead Poisoning Prevention Program has conducted voluntary training programs for inspectors and deleaders, and has also published materials to guide deleaders in safe techniques and appropriate procedures. The Program will also provide citizens with lists of deleaders, but is in no position to attest to the quality or the safety of their work.

Many of the Commonwealth's deleaders are capable and extraordinarily committed to safe deleading practices. Their work is extremely strenuous, tedious, and dangerous. Proper safety procedures are as essential for them as for those who live in the residences they delead. Many deleaders are painting contractors who are unable to obtain liability insurance for their deleading work. For these and for many other reasons, there is a serious shortage of capable deleaders at work today in the Commonwealth, a fact which stands as a serious impediment to any effort to undertake preventive deleading on a broad scale.

It is regrettable yet accurate to state that a family whose child is *not* poisoned would be wiser *not* to delead rather than attempting to do so themselves or by utilizing the services of poor quality deleading contractors. The Commonwealth has an urgent responsibility to address this serious shortcoming.

7. Public education efforts concerning lead poisoning prevention have been inadequate.

There is a major public awareness gap regarding the hazards of lead poisoning. Many in the Commonwealth view lead poisoning as a problem which has been "taken care of", or which does not affect them. At its public hearings, the Commission heard witness after witness recount how "Nobody told us anything about lead when we bought our house, not the seller, not the realtor, not the inspector, not the banker, not the lawyer — no one." Similar failings were observed in many parts of the health care community, with many obstetricians, pediatricians, and nurses providing no information to parents and prospective parents concerning the dangers of lead poisoning.

In recent years, the CLPPP has taken steps to increase public awareness of the lead problem on many different levels. A lead poisoning prevention week has been conducted each year to provide broad-based public education. Special conferences on lead poisoning have been organized by the program to educate professionals about the issue. New educational materials have been developed. These efforts have been undertaken with the aid of only one half-time staff person. Significant as these efforts are, they are considerably inadequate in light of the degree of public ignorance of lead poisoning.

An effective, broad-based public education effort is required to inform the public and specific, targeted constituency groups about the dangers of lead poisoning and how to prevent it. State agencies other than the Department of Public Health as well as local governments should be drawn into this effort. New methods of outreach should be tried including imaginative and aggressive use of the media. Specific groups such as realtors, bankers and the health care community should be mandated to provide information to the public at critical junctures to prevent some of the most damaging effects of ignorance about the problem.

8. Federal, state and local governments have met their responsibilities in this area with varying degrees of consistency and success. All three levels of government must step up their efforts to alleviate this pervasive and preventable disease.

In some respects, federal intervention in lead poisoning has been growing or is at least consistent. EPA involvement with lead in gasoline has become much more effective over the past ten years. A new safer lead in water standard will be forthcoming shortly. The federal Department of Housing and Urban Development recently promulgated new proposed regulations calling for more lead abatement in federally assisted public housing. The federal Centers for Disease Control have been an important source of information nationally.

Since passage of the Lead Based Paint Poisoning Prevention Act in 1971 over 60 cities have established lead screening programs with federal support. Between 1972 and 1981 when national data was gathered, the percentage of screened children found to have dangerous levels of lead in their blood dropped from 7.5 percent in 1972 to 4 percent in 1981. In the aggregate these programs have screened millions of children and identified hundreds of thousands with lead toxicity.

Maternal and Child Health block grant funds (which support most local lead programs in Massachusetts and in other states) after falling by 25 percent in 1981, have leveled off or risen since then. (It should be noted, however, that the new guiding role given to states in administering these funds has resulted in many jurisdictions reducing their commitment to lead poisoning prevention.)

The major failure federally has been an unwillingness to adopt nationally enforced standards for lead poisoning detection and abatement. Because Massachusetts has chosen to adopt the strongest standards in the nation, our children have been less harmed by this failure than children in other states. The only area relating to housing in which the federal government is willing to move is in the area of federally assisted housing — and even recently proposed HUD regulations call for the use of state and local funds to support these efforts.

The uncertainties of federal budget balancing efforts make prediction of future federal support difficult. Barring major across-the-board federal funding cuts, it would appear that current levels of support through the Maternal and Child Health Block Grants are secure, that increased federal regulation of drinking water and gasoline are forthcoming, and that little else of substance from the federal government can be expected.

Several local governments in larger urban areas have chosen to take significant responsibility in lead poisoning prevention. Funding for these efforts has been provided through the MCH grants, and in some cases, Community Development Block Grant funds, along with local revenues. The Boston Environmental Affairs Program in particular, has undertaken major initiatives.

In most cases, however, local support has been inadequate or nonexistent. The most notable failure has been on the part of local boards of health which, since 1971, have been required under Section 198 to enforce the lead law "in the same manner and with the same authority as they may enforce the sanitary code." Most local boards of health have not met this responsibility, in many cases for lack of adequate resources, proper equipment, and training. The CLPPP has undertaken voluntary training sessions for local boards. Section 198 also provides the Director of CLPPP with authority to provide by regulation for implementation of the lead law by local boards of health, an authority which has not been implemented as yet.

Even if all local boards of health were equipped to enforce the lead law adequately, the need for ongoing state involvement and leadership would continue. The Commonwealth of Massachusetts can take justifiable pride in the extent to which it has responded to the crisis of childhood lead poisoning. It has gone significantly further than any other state in screening, enforcement, and abatement efforts.

However, because of the amount of lead in the environment, high numbers of children still become lead poisoned each year. As such, the Commonwealth must maintain its leadership role in combatting lead poisoning by taking the further initiatives outlined by the Commission in its extensive recommendations which follow.

VI. COMMISSION FINDINGS AND RECOMMENDATIONS

A. TECHNICAL STANDARDS

B. EDUCATION

C. SCREENING

D. PRIMARY PREVENTION

E. ENFORCEMENT

F. FUNDING

A. STANDARDS FOR IDENTIFICATION AND REMOVAL OF LEAD

Since the adoption of the 1971 law, our understanding of the nature of lead exposure has changed in a number of respects. The Commission reviewed a broad range of technical standards relating to identification and removal of lead to judge their current appropriateness.

The Commission makes the following recommendations in light of scientific advances since the law's adoption, extensive experience with deleading problems, and changes in federal laws and regulations.

1. **a. Safe limits of lead on any surface shall not exceed 600 parts per million.**
   b. Inspection and deleading requirements in homes shall be revised so that required lead abatement up to four feet shall be changed to require abatement up to five feet.
   c. Accessible or movable window surfaces must be deleaded according to new, more stringent regulations.
   d. Inspection and deleading standards may apply to dwellings where a child spends on average more than 10 hours a week for a period of at least a month.
2. **The lead poisoning prevention statute shall be extended to include regulation of leaded soil.**
3. **The Department of Environmental Quality Engineering shall adopt a 20 parts per billion lead in water standard to correspond to proposed federal guidelines. Monitoring of local water quality shall occur through implementation of adequate sampling, corrosion control, and service line replacement measures.**
4. **Property owners shall be required to delead in residences of any individual who has a blood lead elevation and whose cognitive development is delayed, retarded, or associated with pica.**
5. **The Department of Public Health shall regulate various methods of exterior paint removal such as sand and water blasting and shall be permitted to ban practices they deem hazardous.**

A.1. Inspection and Deleading Standards in Residential Property

The Commission recommends that:

a. **Safe limits of lead on any surface shall be 600 parts per million.**
b. **Deleading requirements shall be extended from a four foot level to a five foot level on all interior and exterior surfaces.**
c. **Deleading requirements shall apply to all accessible, movable parts of windows.**
d. **Requirements for inspection and deleading may apply to any dwelling where a child spends on average more than 10 hours a week for a period of at least one month.**

a. *Lead in Surface Paint*

Currently, there is no accurate definition in the lead statute concerning the safe limit of lead in surface paint. This recommendation would apply the same standard to surface paint which currently applies to paint which is sold in stores. The Commission believes that the standard in use for new paint best reflects the proper standard for paint which has already been applied. This recommendation is a technical change to the existing statute.

b. *Deleading to Five Feet*

The current four foot standard, up to which all lead paint must be removed, was adopted as a compromise position during the deliberations on the legislation which led to the creation of the 1971 law. The federal Department of Housing and Urban Development is now promulgating rules and regulations calling for the removal of paint up to a five foot level. This standard would apply, at a minimum, to all federally subsidized public housing units, and to homes purchased with F.H.A. mortgages. The Commission recommends that Massachusetts adopt this new federal standard.

c. *Window Standards*

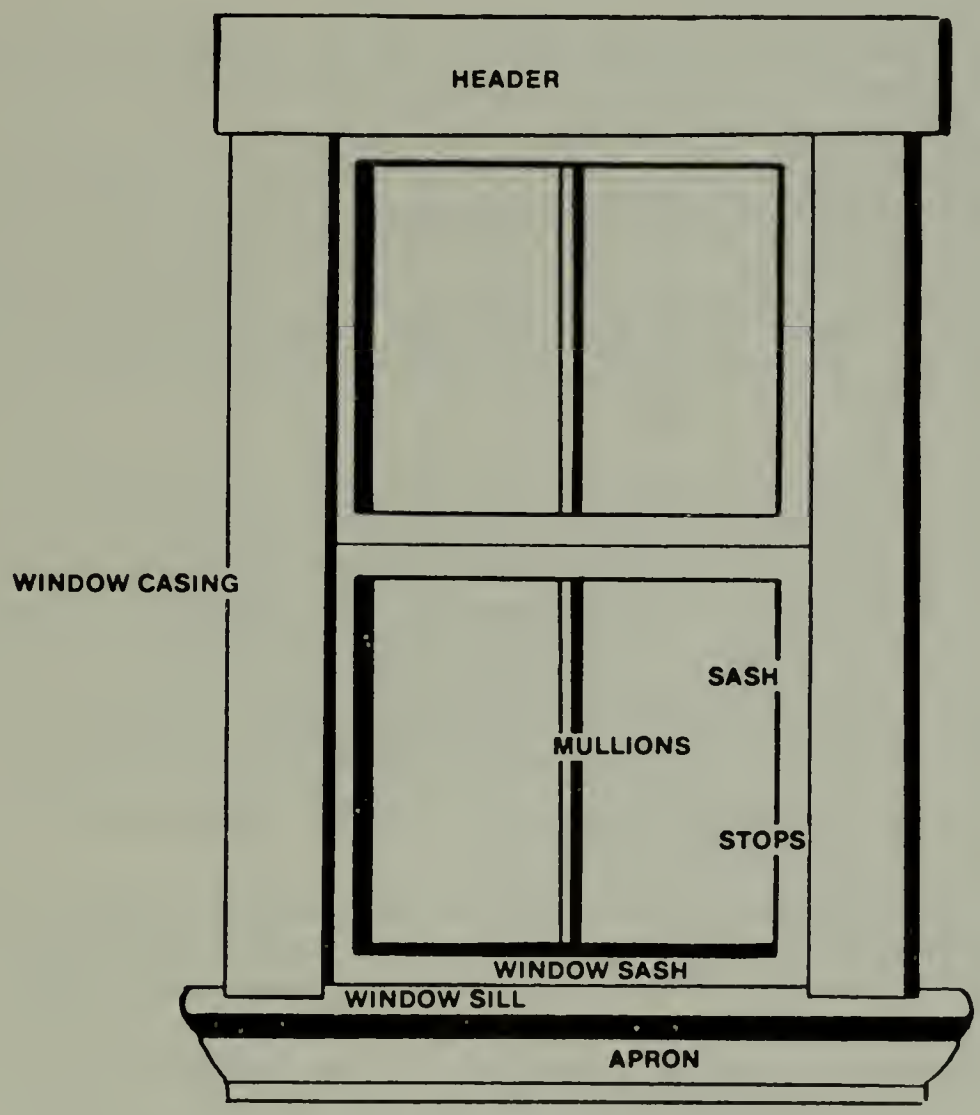
On the advice of state and municipal lead programs, the Commission has determined that current standards for removal of lead paint from windows are inadequate. Movable window parts for which deleading is not now required may chip or peel after deleading is completed, exposing a child to a risk of repoisoning. Requiring the deleading of all movable, accessible parts would eliminate a potentially serious source of poisoning. The Commission has targeted the following window parts for deleading:

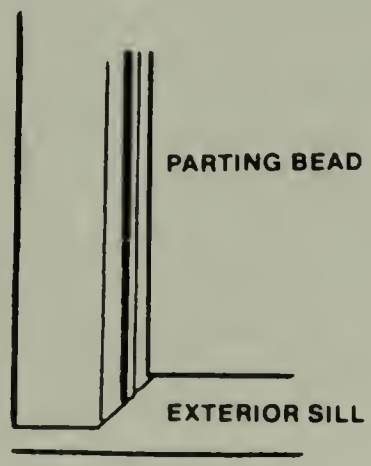
All accessible window surfaces interior or exterior that are either movable or impact on movable surfaces. For those windows having sills below five feet, all paint both below and above five feet must be removed from: interior and exterior window sashes, interior and exterior window sills, window wells and parting beads, the lower side of the window headers impacting on the sash, the inner sides of the window casings both interior and exterior that impact on the sash, and the interior and exterior mullions. (See Diagram below.)

d. Children Poisoned Outside of Their Homes

This final change is recommended to address the problem of children who are poisoned outside of their homes. Current law gives state and local officials no authority to order the deleading of units which are not the primary residence of the poisoned child, even if the source of the poisoning can be proven to be outside of the child's home. The State Lead Program estimates that in five to ten percent of its current cases, the program must look beyond a poisoned child's home to find the source of poisoning.

This recommended change to the statute would give state and local officials the ability to inspect secondary sources if there is a poisoned child and the source of the poisoning is in doubt. The Commission has suggested language allowing such inspections in residences where a child spends "on average more than 10 hours a week for a period of at least a month" in order to restrict this change to those residences where a child *regularly* spends significant periods of time.





A.2. Lead in Soil

The Commission recommends that:

a. **Soil shall be included as a source of lead subject to the inspection requirements of the law when a child under six resides or will reside in a residential premises. Deleading requirements of the law shall be based on a determination by the Director of the Childhood Lead Poisoning Prevention Program that soil is an appropriate factor to consider in hazard identification and abatement.**

b. **The Commissioner of Public Health in consultation with the Department of Environmental Quality Engineering shall be required to promulgate regulations regarding:**
Dangerous levels of lead in soil; and,
Soil sampling and testing.
The Commissioner of Public Health shall also promulgate regulations regarding safety guidelines for workers removing leaded soil.
These regulations shall be promulgated within 180 days of the passage of relevant statutory amendments.

c. **The Commissioner of the Department of Environmental Quality Engineering shall promulgate regulations regarding cover and disposal of leaded soil. These shall be issued within 180 days of promulgation of the Department of Public Health's regulations.**

Currently, the provisions of the lead poisoning prevention statute apply exclusively to the interior and exterior surfaces of dwellings. Research has demonstrated, however, that the soil adjacent to homes may constitute another significant source of lead exposure for children.

Lead finds its way into the soil, both from the wear and tear on house exteriors and from airborne sources such as industrial smelters and leaded gasoline. Children are exposed to lead in soil as a result of their normal play activity, and by simply breathing in air contaminated with leaded dust whose sources include soil.

A 1985 document prepared by the Centers for Disease Control stated that in general, lead in soil and dust appears to be responsible for blood levels increasing above background levels when the concentration in the soil or dust exceeds 500-1,000 ppm. Their conclusions are backed by numerous studies which demonstrate a link between the level of lead in children's blood and the amount of lead found in soil on the property, particularly in the case of low level poisoning. (9)

Additional support for the connection between lead in children's blood and lead in soil has been established by use of the stable isotope ratio technique. This process has enabled researchers to identify sources of lead by comparing the lead isotope ratios found in blood and those attributed to suspected sources such as soil. These ratios are like fingerprints which identify the source of lead. Data is now being gathered for the EPA by Dr. Ramon Barnes, a chemist at the University of Massachusetts, Amherst, to investigate the incidence of poisoning that can be most directly linked to lead in the soil.

As a result of these findings, the Commission has recommended the above listed legislative and regulatory changes.

Regulatory duties are divided between the Department of Public Health and the Department of Environmental Quality Engineering based on existing jurisdictional distinctions.

Regulatory discretion given to both the Department of Public Health and the Department of Environmental Quality Engineering is necessary to establish precise guidelines regarding the various technical questions that must be answered. These include determining dangerous levels of lead, safe and cost-effective methods of cover and removal, and appropriate personnel to perform testing and removal. These guidelines will be subject to the public notice and hearing requirements regularly adhered to by state agencies.

The combined cost of soil removal and replacement is estimated to be $500 per property, based on bids submitted by private contractors. The projected cost of the disposal of lead contaminated soil could range from $0 (on-site disposal) to $630 (off-site dump disposal) depending on the method selected.

The members of the Commission were keenly aware that the inclusion of soil as an item for inspection and removal in our lead poisoning prevention efforts represents a significant new initiative with many questions to be resolved. The large body of research which amply documents the connection between lead in soil and poisoned children, however, is too compelling to be ignored.

A.3. Lead in Water

The Commission recommends that:

a. DEQE shall adopt a 20 parts per billion lead in water standard to correspond to proposed federal guidelines.
b. DEQE shall establish adequate sampling guidelines for local water supplies and shall monitor such sampling.
c. All communities at risk for lead exposure shall take appropriate corrosion control measures, in consultation with DEQE's corrosion control program.
d. Cities and towns shall be encouraged to assert ownership rights over service lines to permit gradual replacement of lines that contain lead.

a. *The Lead in Water Standard*

Residents in many communities in Massachusetts are vulnerable to lead exposure through drinking water supplies due to the combination of a "soft" acidic source of water, and extensive systems of lead piping. The acidic water is corrosive to the lead in the piping, thereby releasing it into the water.

EPA, the federal environmental agency, recently issued a report in which they estimate that nationally, at the current standard of 50 parts per billion lead in water contributes 25-33 percent of the lead normally ingested for a child and 33 percent of that in food for an adult.

New research indicates that lower levels of lead cause physiological damage especially in infants, the most sensitive subpopulation exposed. Because of this, the EPA has just proposed the lowering of its lead in water standard from 50 parts per billion to 20 parts per billion.

Massachusetts has historically followed federal guidelines regarding permissible concentrations of lead in their water supplies. The Commission recommends that it continue to do so, by implementing a 20 parts per billion standard at the state level as quickly as possible, beginning with this recommended statutory change.

Because samples are taken so infrequently and at such limited sites there is wide disagreement regarding actual concentrations of lead in water in Massachusetts communities. Given that it generally takes 3 years from promulgation of a federal regulation for action to be taken at the local level, hard data taken from a variety of sites should be gathered to ascertain reliable lead concentration levels in Massachusetts' cities and towns.

b. *Sampling Techniques*

Existing water sampling techniques at both the federal and state level have come under increasing scrutiny. Many communities only take water samples once a year or once every three years following existing federal guidelines. Tests are also performed at single sites, rather than from a variety of sites such as peoples' homes.

In addition, the current sampling protocol of only taking one sample when testing is done is inadequate. A more accurate measure of lead concentration in drinking water requires 3 samples: one to test water stored overnight, one to test water in service lines collected after water has run for a few moments, and the third sample to test water from the water main collected after water has run for a substantial period.

The Commission therefore recommends that DEQE evaluate existing sampling techniques and schedules and prescribe appropriate steps to ensure that regular, reliable and comprehensive tests are performed.

c. *Corrosion Control*

One purpose of systematic sampling will be to gather a data base which will indicate which communities are in need of corrosion control to limit the leaching of lead into their water supplies. The experience of MDC communities who instituted control measures in the mid 1970s should be shared with other communities.

By treating raw water with chlorine, ammonia, hydrofluosilicic acid and sodium hydroxide, the MDC produced an increase in ph from 6.7 to 8.5 in its water supplies. These adjustments have been shown to substantially reduce lead concentrations, although Peter Karalekas, a specialist in this area at EPA, has suggested that additional treatment mechanisms may be necessary.

Cost estimates for corrosion control should be prepared on a community basis. Currently MDC area residents (some 1,800,000 people in the metropolitan area) are paying less than one dollar per person per year to have their water treated.

d. *Replacement of City Service Lines Containing Lead*

In order to facilitate replacement of leaded service lines which connect interior pipes to exterior lines, the Commission has also recommended that cities and towns be encouraged to assert ownership of these lines. Boston, which owns its service lines, is systematically replacing leaded lines. Cambridge by contrast, which does not own its lines, is relying on an incentive program which is only sporadically successful in inducing private property owners to replace their lines.

A.4. Lead Hazards in Residences of Cognitively Impaired Individuals

The Commission recommends that:

Property owners be required to abate lead hazards in the residences of individuals of any age who have a blood lead elevation and whose cognitive development is delayed, retarded or associated with pica.

In towns as diverse as Arlington and Great Barrington, cases have arisen in which children over six years of age have been poisoned, or individuals whose cognitive development is delayed or retarded have suffered continued blood lead elevations. These individuals are at higher risk of poisoning than other members of their age group either because they are cognitively disabled and don't respond to instruction to avoid leaded surfaces or because they suffer from a disorder known as "pica" which leads them to compulsively chew on non-food items, which can contain lead.

In order to permit CLPPP to intervene in these cases, the Commission has recommended that property owners be required to abate lead hazards in the residences of individuals of any age who have a blood lead elevation and whose cognitive development is delayed, retarded or associated with pica. The number of such cases is small and the effects on program operations would be minimal.

A.5. Regulation of Sandblasting, Water Blasting and Other Removal Methods

The Commission recommends that:

a. **The Department of Public Health shall ban sandblasting of lead-based paint where it determines that children under six are at risk of exposure.**
b. **The Department of Public Health shall promulgate regulations which ban the use of potassium or sodium hydroxide for the purpose of deleading.**
c. **The Department of Public Health shall draft regulations, in consultation with the Department of Environmental Quality Engineering, for the purpose of requiring shrouding whenever power sanders, sandblasting or water blasting are used as means of removing lead based paint from exterior surfaces. Enforcement of this provision shall be the responsibility of local authorities. Local authorities shall be authorized to issue permits for sandblasting or water blasting.**

Different methods of lead removal pose different hazards to the environment. Potassium or sodium hydroxide (KOH or NaOH) is sometimes used to remove lead-based paint. This method involves applying a paste to the surface and allowing it to soften the paint. If the paint is scraped off after it is softened, no problem results, but if the paint is washed off using high pressure water hoses there is a massive contaminant problem.

Power sanders create a very fine dust that is easily distributed by wind or air currents far beyond the work areas. The lead dust is easily inhaled and/or ingested by humans and domestic animals.

Air and water blasting do not create as much, or in the case of water blasting, any dust. However, these methods do cause lead particles to be distributed by wind and air currents. The extent of dispersal is dependent upon the wind velocity at the time.

In the cases where hand scraping is employed, the danger of dispersal is minimal. If the ground around the work area is adequately covered with drop cloths, that is sufficient protection.

In cases of extreme hazard, the Commission recommends that the Department of Public Health be authorized to ban certain removal methods (e.g., sandblasting and power removal using potassium or sodium hydroxide). In the case of less hazardous methods, enforcement should be left to local authorities to issue permits and to otherwise regulate. A small charge for permits and fines for violations could cover any resulting administrative expenses.

B. EDUCATION

Efforts to inform the public about the hazards of lead have been hampered because total governmental responsibility for such activities has resided with the Department of Public Health pursuant to Section 192 of the lead paint law. Education has therefore been contingent on limited departmental accessibility and resources. Members of the general public are most frequently informed of a lead hazard after a child has been poisoned when the full legal, financial and emotional consequences take their greatest toll.

At critical points when facts about lead poisoning could be communicated effectively, people are not informed; e.g., before homes are purchased, during pediatric visits, in other settings.

The Commission has viewed its mandate to examine current public education efforts and to suggest reforms in a broad context. It has sought ways to make the public generally more aware of lead hazards. As such, its education proposals touch all areas of lead poisoning prevention including screening, enforcement and primary prevention and are contained in those sections of this report. These proposals include the following:

- **A phased-in requirement for all residential property in the Commonwealth to be inspected by certified inspectors prior to sale. Real estate agents and/or sellers will be required to give prospective purchasers a copy of this report along with a written fact sheet about the lead poisoning prevention statute. (Recommendation E.3.)**
- **Universal screening and one time screening for children in day care will be required to give parents earlier notice if their child is already poisoned, and to inform them about lead hazards generally. Medical providers, mandated to screen all children of a certain age for lead, will be educated as to the widespread threat of lead poisoning and regarding proper treatment. (Recommendation C.1.)**
- **Training and certification will be required for inspectors and deleaders to educate these personnel regarding safe and accurate procedures to test for lead and to remove it, thus safeguarding the health of both families who need these services and the professionals who provide them. (Recommendation E.1.)**
- **Authority currently held by local boards of health to enforce the lead statute by performing inspections and by ordering deleading will be implemented to make cities and towns much more reliable sources of information. (Recommendation E.2.)**

These measures will provide a base of information to parents and others at points in time when information is most needed. All six will be described in more detail in following sections of this report. In addition, the Commission has made one recommendation specifically in the area of public education.

B.1. Public Education on Lead Poisoning Prevention

The Commission recommends that:

a. **The Department of Public Health undertake more aggressive and creative methods to alert the public to the dangers of lead.**
b. **The Governor appoint an interagency Task Force including, but not limited to, the Department of Public Health, the Department of Public Welfare, the Executive Office of Communities and Development, the Office for Children, the Executive Office of Human Services, the Executive Office of Consumer Affairs, the Department of Social Services, and the Department of Environmental Quality Engineering to examine ways in which these agencies can play a role in educating the public about lead poisoning prevention.**

While CLPPP has greatly expanded its educational efforts in recent years by developing written information and by conducting numerous conferences and trainings, it has lacked the financial resources to launch a broader media campaign. In public hearings conducted around the state over the past year, the repeated complaint voiced was the lack of information about lead hazards. The Commission is hopeful that with increased funding, a broader audience will be reached.

Other efforts can be aided through the cooperation of agencies other than the Department of Public Health. One of the functions of the proposed interagency task force will be to explore avenues through which different agencies can reach their constituencies. The Department of Public Welfare in New York, for example, routinely encloses lead poisoning prevention information in recipients' welfare checks. This has proven to be very effective in educating that target group.

The Massachusetts program has established good interagency cooperation with the Women, Infants and Children Program, the Department of Public Welfare, the State Division of Occupational Hygiene, and the Attorney General's Office. It has also attempted to establish cooperative efforts with the Executive Office of Communities and Development, the Department of Housing and Urban Development, and the Department of Environmental Quality Engineering. The Commission applauds these efforts, but sees the need for more. Leadership on this matter should come from the Governor's Office.

C. SCREENING

Screening children for elevated lead levels is a key component in current lead poisoning prevention efforts in Massachusetts. Identifying poisoned children early in the exposure process is essential for two reasons: one, children rarely exhibit noticeable signs of lead poisoning in its earlier stages; and two, less severe levels of poisoning from lead do not diminish on their own, but remain in the child's body and permit increasingly serious degrees of poisoning.

The current penetration rate (the number of children screened divided by the number of children at risk, expressed as a percentage) is, as of March 1986, 45.1 percent. This screening is second only to New York state's in absolute numbers and is the highest per capita rate in the nation. Despite this promising statistic, there are areas of the Commonwealth, including urban areas, where screening penetration is low by state standards. In the absence of an enforced requirement for universal deleading of property, screening efforts will remain a critical aspect of a preventive strategy to identify children at risk and to treat them before it is too late.

By themselves, existing lead programs have been unable to broaden screening efforts to the point where they can achieve a 100 percent rate. The Commission has determined that this gap can be closed by instituting the following reforms:

C.1. Screening by Medical Providers

a. All medical providers, individual and institutional, shall be required to screen children under the age of six pursuant to a schedule to be determined by the Commissioner of Public Health in consultation with professional medical groups.

b. The Commissioner shall further be authorized to regulate the screening of pregnant women and newborns, should such become medically warranted at some future time.

Mandating screening has been recommended in order to expand screening services in the most practical manner possible. CLPPP has been quite successful in eliciting voluntary physician cooperation, but given the pervasiveness of lead hazards in the environment and the absence of an all out state commitment to eliminate them, partial compliance by medical providers is not adequate.

Physicians themselves are recognizing the need for early screening. The American Academy of Pediatrics is currently contemplating a recommendation to its members that screening be done at certain intervals. If adopted, this recommendation would be considered the prevailing medical standard nationally. Locally, many providers now offer screening services as a matter of course. These include many community health clinics and health maintenance organizations such as Harvard Community Health Plan, Baystate and the Blue Cross/Blue Shield HMOs: Fallon and Medical East and West.

With mandatory screening, laboratory facilities will have to grow to meet the demand for blood analyses. These services are already provided in a highly centralized fashion. Approximately 95 percent of blood samples analyzed statewide are processed at the Department of Public Health's main facility in Jamaica Plain and in the Boston program laboratory. Personnel can readily be added to meet the new demand generated by universalized screening.

It has been estimated that universal screening will require a 100 percent increase in laboratory personnel and equipment or a budgetary increase of $300,000 annually, as 130,000 children now receive screening services, and the remaining 235,000 children under six in the population will, if screened only once a year, net 235,000 additional tests. Adding 34,000 confirmatory blood tests to those 235,000 initial screens would bring the total to approximately 268,000 tests.

Provision has also been made to permit the Commissioner to regulate the screening of pregnant women and newborns, as research currently in its final stages may well require the mandating of such services. (10)

C.2. Reimbursement of Lead Screening Costs

The Commission recommends that:

Third party payers shall be required to reimburse lead screening costs to providers.

Currently, children who receive screening services through Medicaid or WIC are the only patients assured of payment for these services. While some of the larger health maintenance organizations cover these costs, this is by no means the rule.

The primary rationale for requiring the reimbursement of screening services is that they are preventive, and by encouraging their utilization, significant long term savings can be anticipated. Screening costs should be compared with the costs of taking a less preventive approach to the problem of lead poisoning. Total costs of screening are estimated at $5-10/test. These costs are minimal when compared to the costs of treatment for lead poisoning where a 5-day inpatient chelation procedure costs upwards of $2,500.

Rather than calculate the aggregate costs that might be borne by insurers following the enactment of this provision, one can assume that the $5-10/per test would be passed along to consumers in the form of insurance rate increases, particularly by those companies whose rates are not regulated by the Division of Insurance.

C.3. Day Care

The Commission recommends that:

The Office for Children shall require day care providers to obtain from the parent(s) of each child in care, aged two or older, a statement signed by a physician or health agency which documents that the child has been screened for lead poisoning. This evidence shall be submitted to the day care provider when the child in residence becomes two years old or upon enrollment into day care if the child is two years old or older.

Screening requirements for children in day care facilities were viewed as a priority by the Commission given the fact the 111,344 children under six are reportedly enrolled in day care in the Commonwealth. This figure includes both group and family day care and represents approximately 25 percent of the total Massachusetts population in that age group. Family day care is distinguished from group day care in that only a maximum of six children are supervised and care is uniformly provided in private residences.

Although monitoring, especially in family day care, may prove difficult, the Commission endorsed a one time screening requirement for children in day care to serve as a necessary safety net for youngsters who might otherwise not be screened.

Day care providers are already required to collect and maintain medical information on each enrolled child. The task of obtaining and filing documentation concerning lead screening should present little added difficulty. The responsibility for performing the lead screen would rest with the child's physician, thus resulting in no added cost to the Commonwealth.

The Commission also considered the issue of inspection and deleading requirements for day care. Group day care centers are already required to demonstrate that the premises do not contain excessive levels of lead as a condition of licensure. Family day care homes, on the other hand, have no such requirement.

The Commission examined several proposals which if enacted would have forced family day care providers to have lead inspections performed and to subsequently abate. One proposal, in recognition of the fact that many family day care providers could not afford the cost of abatement, would have included state assistance. Approximately 9,200 family day care providers are currently registered with the Office for Children. Based on the assumption that 70 percent of Massachusetts dwellings contain dangerous levels of lead, approximately 6,400 units would have to be abated. Since the average deleading cost is $2,500, over $16 million would be needed to rid the current supply of family day care homes of lead.

The Commission could not justify using limited dollars in this way given the fact that no documentation exists which demonstrates or even suggests that children enrolled in family day care are at greater risk for lead poisoning.

Mandatory inspections and deleading without financial assistance would greatly reduce the number of registered family day care providers. Property owners might refuse to allow tenants to provide the service thus avoiding an inspection and its costly consequences. Potential providers might understandably decide that their earnings are not worth the expense and disruption created by the added requirements. Others might continue to provide the service but not register with the Office of Children, thus limiting the agency's already minimal regulatory power and adding significantly to the large numbers of unlicensed family day care providers.

For these reasons, the Commission chose to only recommend the screening requirement.

D. PRIMARY PREVENTION

The somber truth behind lead poisoning prevention efforts over the past fifteen years is that due to limited resources, existing lead enforcement programs have been forced to wait until children are poisoned before homes are deleaded. Thus, the health and well-being of children have been sacrificed to indicate where lead paint should be removed. When lead is found, a burdensome series of requirements and sanctions are employed to treat poisoned children and to remove lead from their homes. Sadly, this structure comes into play only after a child is poisoned, not before.

The drafters of Massachusetts' landmark lead poisoning prevention legislation did not intend this result. Section 194 of the lead paint statute, which has not been substantially amended since its adoption, authorized the Director of the Childhood Lead Poisoning Prevention Program to have his staff systematically inspect all dwellings in the Commonwealth that might contain lead paint and to order the deleading of those units. Single family homes were exempted from the inspection requirements of this provision from 1978 through 1986 but are now subject to these requirements. Further, section 197 of the Act requires new owners to delead properties at the time of purchase if a child under six is to reside there. This requirement has also never been effectively enforced.

Given that roughly 70 percent of all residential property in the Commonwealth contains dangerous levels of lead paint, the Legislature made the implementation of systematic inspections and deleading requirements contingent upon the availability of state funds which since the law's inception in 1971 have not been appropriated. Modest funds for crisis deleading have only resulted in the deleading of approximately 1,000 units a year, leaving an estimated 1.2 million units still containing lead. Thus, lead in the housing stock in Massachusetts is essentially as much of a threat now, as it has ever been.

Clearly, an effective primary prevention strategy would remove lead from a child's environment before, not after, a child is poisoned. The Commission wrestled with the practicality of requiring the deleading of all properties in the Commonwealth either at the time of property transfer or when apartments become vacant. Such requirements, if effectively enforced, would remove the lead hazard from most homes in the Commonwealth within a period of 7 to 10 years.

The Commission chose not to make this recommendation based on a recognition that to go from an average rate of deleading of from 1,000 to 1,500 units per year to over 150,000 units annually would not be feasible. This is especially true in light of the Commission's proposal that all inspectors and deleaders be required to enroll in a certification and training program before entering the job market. Given the Commission's additional recommendation to spread the costs of deleading among a larger segment of society through various financial incentives, a universal deleading and transfer requirement would make the cost of such assistance prohibitive.

Despite these practical obstacles, the goal of removing lead hazards before children are poisoned cannot be eliminated. The Commission has recommended that this goal be met by targeting resources towards those geographic areas where children are most at risk. The recommendations which follow describe a step by step process whereby this can be achieved.

D.1. Establishment of Emergency Lead Poisoning Areas (ELPAs)

The Commission recommends that:

The Childhood Lead Poisoning Prevention Program, using its existing statutory authority, shall identify and target high-incidence neighborhoods for lead paint inspections and removal. Identification of ELPAs shall be based upon regulatory standards which will define high incidence levels and priorities in selection.

To determine whether funds for preventive deleading could be targeted effectively, the Commission examined the experience of the Boston Lead Poisoning Prevention program. In a report that the program and its director, Ronald Jones, a member of the Commission, issued in August 1985, the concept of "Emergency Lead Poisoning Areas" originated — to quote a relevant portion of the report:

"To identify the highest risk areas in Boston, the BCLPPP determined the total number of Boston children screened between October 1979 and February 1985 who were found to be lead poisoned and divided them by census tracts, and then by specific streets and blocks."

"As a result of these efforts, BCLPPP demonstrated that childhood lead poisoning in Boston, while occurring throughout most of the city, is to a surprising degree concentrated within very limited geographic areas. We have known for some time that four neighborhoods — Dorchester, Roxbury, Jamaica Plain, and Mattapan — are highest in the number and percentage of children poisoned. These neighborhoods account for 87 percent of the city's lead poisoned children and only 56 percent of the at-risk population (9 months to six years of age). However, we found that 16 of the census tracts in these neighborhoods — account for 41 percent of Boston's lead poisoned children."

"What is of greatest concern is the discovery that 4.4 percent of the city's 9 months to 6 year old children living in 28 discrete areas, each averaging only 2-3 city blocks, sustain nearly 30 percent of Boston's childhood lead poisoning. In each of these small areas, an average of more than thirty children were found to have been poisoned — more than one out of every four children. This concentration of lead poisoned children within such limited areas underscores the necessity of addressing lead poisoning as an environmental problem requiring the same focus on toxic source removal as is the case with other hazardous materials." (11)

The Childhood Lead Poisoning Prevention Program has already contemplated an approach similar to Boston's and has prepared a survey of 23 Massachusetts cities and towns with suspected high rates of lead poisoning based on data compiled in 1981 and updated in 1986. (See Chart M, p. 26.) CLPPP has not yet organized its results as Boston has by census tract, specific streets and blocks, but it has the capacity to do so.

As the Commission has made clear, current authority exists for the CLPPP to do systematic inspections and deleadings; but these steps have not been taken because existing resources have been used to identify children who have already been poisoned.

A highly targeted use of resources, however, will permit the implementation of a primary prevention program. The Commission therefore urges the CLPPP to exercise its discretion to create ELPAs by establishing guidelines for their selection. Additional funding will be sought both through the appropriation process and through financial incentives to property owners to assist in this effort.

D.2. Inspection Requirements for ELPAs

The Commission recommends that:

In ELPAs, normal inspection procedures shall include the following: all building exteriors, soil, parks, vacant lots and playgrounds, also the interiors of all schools where children under 6 receive instruction or where developmentally disabled minors under 18 receive instruction, as well as the interiors of all residences where a child under 6 spends on average more than 10 hours per week for a period of more than one month.

The Commission has recommended more thorough inspection standards for Emergency Lead Poisoning Areas because of the significantly higher environmental risk which exists in these small areas. As was noted earlier in this report, some at risk areas in the city of Boston include soil which has been contaminated at levels greater than 4,000 parts per million, while any level over 500-1,000 is considered hazardous by the Centers for Disease Control. This evidence calls for stronger measures to clean up larger portions of the environment in ELPAs, not just home interiors.

D.3 Vacancy and Transfer Deleading in ELPAs

The Commission recommends that:

All residences in ELPAs that do not house children under six shall be required to be deleaded up to state standards at the time of apartment vacancy or transfer of ownership.

To permit preventive deleading in ELPAs in the least disruptive manner possible, the Commission has proposed a vacancy/transfer deleading requirement. The homes of children under six in ELPAs will of course be targeted for immediate deleading.

Areas of high lead poisoning incidence quite likely have high concentrations of children in the high-risk age group. In Boston, for example, 12 of the 23 census tracts with ELPAs are among those 20 census tracts with the highest percentage of children under 5 years old. Therefore, the percentage of dwelling units in ELPAs *without* young children, while certainly significant, is likely to be much lower than average. Consequently, the transfer/vacancy deleading requirement in ELPAs will not affect nearly as many units as it would in other areas.

The scale of a vacancy/transfer program should not present major problems, since each ELPA has only 150-200 units. As part of systematic inspections, the sub-set of these units not having children under six would be identified for follow-up through vacancy/transfer inspections.

The Commission is also concerned about the enormous amount of discrimination which families with children face in finding affordable and decent housing. To undertake a vigorous ELPA program, as proposed in D.1. and D.2. without vacancy/transfer deleading would be to make ELPAs more child free than lead free over a short period of time.

To implement a vacancy/transfer deleading program, CLPPP would be required to promulgate regulations and to otherwise establish protocols in the areas of:

- community education
- the role of local code enforcement agencies
- notice requirements for property owners and real estate agents
- notice requirements for local registries of deeds.

Current statutory requirements permit CLPPP a broad oversight role in the areas of public education and monitoring the role of local boards of health (s. 192, 194, and 198). Notice requirements on local registries will require a statutory amendment.

E. ENFORCEMENT

To date enforcement of the lead law has been effective in ensuring that the homes of children are deleaded *after* children have been identified as having been poisoned. Lack of enforcement of certain key provisions of the law has discouraged early notice of the presence of lead paint, deleading upon transfer of property and other preventive measures.

The lack of participation of local boards of health in lead poisoning prevention efforts, despite their responsibility to enforce the law, has also slowed education and deleading in many communities.

Another obstacle to local enforcement has been the discrimination encountered by families seeking housing, who are denied shelter due to owners' fear of potential liability under the lead law.

The Commission has identified six areas which require proper implementation for the lead statute to function. These include the following:

1. **Assuring the quality and safety of inspections and deleading services;**
2. **Making local board of health personnel available to inspect and monitor deleading of homes;**
3. **Requiring sellers of real estate to have inspections performed of their property, and requiring real estate agents to disclose the presence of lead paint so that prospective purchasers have notice regarding the property's condition;**
4. **Countering discrimination against families with children in the rental housing market due to the presence of lead paint;**
5. **Assuring proper medical follow-up of lead poisoned children; and,**
6. **Certifying the quality of private laboratories performing lead tests.**

E.1. Certification of Inspectors and Deleaders

The Commission recommends that:

a. Lead paint inspectors and deleaders be certified and trained as fulfilling professional requirements to be established by the CLPPP.

To ensure an adequate supply of trained personnel to institute preventive deleading in ELPAs and to meet the demand generated by increased enforcement of existing statutory requirements, the Commission has recommended that lead paint inspectors and deleaders be certified and, if necessary, trained as fulfilling professional requirements to be established by the Director of the Childhood Lead Poisoning Prevention Program.

Currently CLPPP employs only nine inspectors. The MCH projects retain roughly twenty inspectors. Some local boards of health also deploy staff to perform lead inspections. This corps of publicly funded personnel added to 24 private inspection firms, many of which are sole proprietorships, must meet the inspectional needs of the Commonwealth. With a housing stock of 1.2 million units estimated to contain lead, this labor pool is clearly inadequate to meet the existing demand.

Similar shortages characterize the supply of deleaders with an estimated 26 private firms required to meet statewide deleading needs. No governmental entity currently retains professional deleaders on staff.

A further constraint on existing resources is the lack of quality control. Inspectors and deleaders available in the private market are not licensed, thus there is no current means available to monitor their performance.

The hazards of deleading if done improperly, affecting professional deleaders as well as the families for whom they work, have been well documented. A study to be released shortly by CLPPP will reconfirm this. Sadly, many children are more severely poisoned during or after a poor deleading job than before it. Both the public, through the Commission's public hearings, and lead poisoning prevention staff have repeatedly testified to this fact. As such, assuring the quality of deleading is one of the Commission's top priorities.

To meet the goal of increasing the quality of inspectors and deleaders, the Commission has proposed a training program that could operate at no cost to the Commonwealth if administered jointly by the Department of Public Health (through CLPPP) and the University of Massachusetts. A reasonable fee structure would support the program, and the University of Massachusetts' community college network would provide multiple local settings for trainings. An estimated 60 hours would be required for instruction, the major portion of which would consist of working with state or certified inspectors or deleaders under on-the-job conditions. With training completed, inspectors and deleaders would receive certification through CLPPP. Their performance would be monitored periodically to ensure that following certification they continued to comply with state standards.

More rigorous enforcement of current inspectional and deleading requirements including systematic clean-up in high risk areas, when coupled with financial incentives such as tax credits, grants and loans to property owners, should help to expand the private market for both inspectors and deleaders. This should encourage a stable source of labor for a certification and training program.

Certification will also provide useful documentation of professional proficiency in court actions and other legal disputes.

E.1. Liability Insurance Coverage for Deleaders

The Commission recommends that:

b. In any effort to address the liability insurance crisis by the General Court, specific attention should be addressed to the needs of the deleading industry.

Lead paint removers have been at risk on the liability front. They face the obstacles encountered by many employees and owners of small businesses who cannot afford exorbitant insurance premiums or who cannot obtain insurance at all because their work is considered too hazardous.

Deleaders have responded in a variety of unsatisfactory ways to this dilemma. Some operate without any liability insurance at all. Others refer to their work as "painting" in order to obtain limited coverage.

The lack of a near term solution to this problem poses the risk that deleading in the Commonwealth may come to a complete halt. While the lack of liability insurance is a problem affecting many industries, and the Commission recognizes the impracticality of devising a solution that only affects deleaders, it strongly urges the General Court to specifically include lead removers in any broad initiative to resolve the liability insurance crisis.

E.2. Enforcement by Local Boards of Health

The Commission recommends that:

Section 198 of paragraph 2 of the lead law which gives local boards of health concurrent enforcement authority with the Department of Public Health shall be implemented to its full extent. Failure to implement this section shall be followed up by enforcement actions by the Department of Public Health and if necessary by the Attorney General.

Section 198 of the Lead Law specifically states that "all local boards of health or other code enforcement agencies . . . shall enforce sections 196 and 197 in the same manner and with the same authority as they may enforce the sanitary code." For a variety of reasons, most local boards of health have not assumed this responsibility. Local communities have felt unable or unwilling to expend funds to purchase and to maintain equipment. Some boards have been unwilling to enforce a statute which both heavily burdens local property owners and which requires extensive use of board of health personnel.

As a consequence, the CLPPP and MCH funded projects have assumed almost total responsibility for enforcement of the lead statute but perform inspections and monitoring of deleadings only when residences of poisoned children or day care centers are involved. The nine inspectors currently employed by the state program and federally funded inspectors are kept so busy with poisoned children and day care centers, that time and resources are not available to devote to true prevention. As such, CLPPP's and federal projects' abilities to monitor private sector deleading to ensure worker and tenant safety have been limited.

CLPPP has expanded outreach to some local boards of health, with about twenty localities performing lead paint inspections on a sporadic basis. Trainings have also increased. Six conferences have been conducted over the past two years to which boards of health have been strongly encouraged to attend.

Increased enforcement by local boards of health is advocated so that inspections and deleadings can be performed by personnel at the community level where advice and monitoring are most needed. With greater community involvement in lead poisoning prevention efforts, it is hoped that inroads will be made both into primary prevention and into monitoring of safety practices.

State personnel, freed from inspectional duties, will be available to provide assistance and advice when called upon to do so. CLPPP personnel will conduct reviews and audits of local boards of health and will coordinate activity on a regional basis. Upon analysis of board of health performance documented through quarterly reporting, the Director will be authorized if he finds that legal requirements are not being met, to suspend lead poisoning prevention funding allocated by the state. Tying funding to performance and to compliance with reporting requirements will put teeth into CLPPP's monitoring role.

Because s.198 was adopted in 1971, it predates Proposition 2½'s requirements that the state assume the costs of newly imposed mandates on local communities.

If it chose to, the state could support the local effort directly through the grant process or indirectly through the cherry sheet distribution mechanism. For an average sized community a typical budget might look as follows:

Purchase of Machine	$ 7,500	
Maintenance of Machine	2,000	
	$ 9,500*	9,500
Salary of Inspector	$17,000	
Secretarial etc.	1,000	
Legal Counsel, Consultants	3,000	
	$21,000	21,000
Total		$30,500

Public expenditures could also well be offset by charging for inspections and by using income generated from fines against landlords who failed to comply.

E.3. Inspection and Disclosure Requirements for Property Transfers

The Commission recommends that:

a. Two years after a training program for lead paint inspectors is authorized and funded, sellers of residential property built before 1978 shall be required to have a lead paint inspection of their property performed by a certified inspector. This provision will be phased in as follows:

Two years post program implementation — pre 1920 housing;
1 year later — pre 1940 housing;
2 years later — pre 1960 housing; and,
3 years later — pre 1978 housing.

b. The seller of property shall be required to give a copy of the inspection report to the buyer or to the real estate agent who in turn will make the report available to prospective buyers prior to the signing of a purchase and sale agreement. The agent shall also be required to provide buyers with a form concerning provisions of the Massachusetts lead law, to be prepared by CLPPP.

The inspection requirement will be a one time requirement only. As such, a vast majority of the housing stock should be inspected within a 7 to 10 year period. A common theme in the Commission's hearings was the complaint from home owners that they were never informed of the existence of lead in their homes or of the provisions of the Massachusetts lead law. The commonly held notion that lead is only a "poor person's problem" is false, as has been amply demonstrated by the large number of middle class families who have faced the trauma of a lead poisoned child.

Housing built after 1978 has been exempted from these requirements because of the minimal probability that units will contain lead paint following its ban for residential use in 1977 by the federal government.

The notification requirements placed on real estate agents are analogous to restrictions on false advertising and misrepresentation already affecting brokers under the Consumer Protection Act, G.L. c. 93A.

Distribution costs of forms sent to brokers can be absorbed by CLPPP's budget. Professional associations of real estate agents could be enlisted to assist in distribution and education. Additional monitoring of enforcement of this provision will be unnecessary, as enforcement powers are currently available to both private citizens and to the attorney general's office under chapter 93A.

* Since $7,500 of this is a one time cost, the costs in succeeding years would be less. Furthermore in some towns the lead inspector could be part-time or shared on a regional basis.

E.4. Discrimination Against Families with Children in the Housing Market

Based upon testimony at public hearings and information from a variety of public and private sources, the Commission has determined that the Massachusetts lead law has been the cause of massive discrimination in the rental housing market. The problem has reached the point where some landlords now routinely advertise the existence of lead paint in their apartment advertisements to dissuade families with young children from even applying for housing. (See ads, p. 53.)

There are two options in dealing with this pervasive problem. One is to weaken the existing law, a choice which would result in greater and more damaging poisonings, a choice which the Commission could not accept. The other choice is to strengthen the mechanisms to penalize those property owners who engage in illegal discrimination. Expanding the lead law to prevent discrimination against families in the housing market is one more example of the Commission's efforts to broaden the scope of the law to encompass the broad range of people whom it actually affects.

To counter the problem of property owners who knowingly discriminate against families with children, the Commission has formulated these recommendations:

a. The Massachusetts Commission Against Discrimination shall be requested to include "testing" for discrimination against families with children in programs it conducts to test for housing discrimination.

b. MCAD and the Attorney General's office shall be requested to as a routine matter inform plaintiffs of their ability to independently seek immediate injunctive relief to halt discrimination against families with children seeking housing pursuant to G. L. c. 151B s. 9.

c. The lead law shall be amended to specify that owners cannot comply with section 197 by refusing to rent to families with children under six and that such behavior constitutes a violation of Chapter 151B. Evicting such families or refusing to renew their leases already violates G.L. c. 93A and 186 s. 18.

d. The lead law shall be amended to specify that upon a legal finding by the MCAD of an illegal refusal to rent to a family because of the presence of lead paint, an owner shall be required to abate lead sources pursuant to s.197 even if a child under six does not currently live in the unit in question.

a. MCAD currently conducts testing programs (i.e. programs where MCAD staff disguised as potential tenants or home buyers approach sellers, landlords or realtors regarding opportunities to rent or buy available housing) to uncover discrimination by race, sex or source of income (e.g. welfare). Adding discrimination against families with children to MCAD's testing program will provide an avenue which has been shown to be effective in preventively countering different forms of discrimination.

b. The Commission's second recommendation is designed to encourage prompter utilization of the lead law. Many people do not realize that they have a right, after filing a complaint of housing discrimination with the MCAD, to seek an immediate court order on their own to demand that they be able to occupy the rental unit that has been illegally denied them. If this order is granted and if lead is found in the unit in question, deleading would have to begin immediately.

c.d. The third and fourth recommendations are made to remove the incentive which now exists for landlords to discriminate against families with children rather than face responsibilities created by the lead law. There is an apparent contradiction between the discrimination statute which prohibits discrimination against families with children and the lead statute which makes it illegal for a landlord to house a family with a child under six when lead paint is present. This recommendation would clarify the legal responsibility of a rental property owner to delead the premises, and not to discriminate against the family.

Apt. for Rent Apt. for Rent Apt. for Rent

BEVERLY: Available Aug. 1, 5 room apt., heated. $500 per month. Lead paint.

SALEM: 2 bedroom, 4 room apt., handy to public trans., $500 h & hw included. Lead paint. No pets.

BEVERLY COVE — Private home, sunny 2nd flr, bdrm, den, LR/DR, stove, refrig, washer/dryer, lead paint, walk to beach & train, no pets, prof couple pref. 1st, last, sec, $575+.

FLOOR/Rantoul St., Bev. $425/mo + util. Lead paint.

E.5. Medical Follow up of Poisoned Children

The Commission recommends that:

The Director of CLPPP be authorized to establish medical guidelines of care for the follow-up of poisoned children, such guidelines to be developed in conjunction with recognized professional medical groups.

Currently there is no mechanism for enforcement of standards of medical intervention in lead poisoning cases. Medical expertise regarding proper care for victims of lead poisoning tends to be concentrated in only one or two referral centers in the state, leading to wide disparities in the quality of care available.

To remedy this problem, the Commission has recommended that the Director of CLPPP be authorized to establish medical standards of care for follow-up of poisoned children, such standards to be developed in conjunction with recognized professional medical groups. CLPPP will help alleviate the disparity in medical care by distributing information to medical providers and by monitoring their progress through record keeping and other mechanisms.

CLPPP coordination of case management oversight, in addition to standardizing care, should provide an extremely useful centralized data base on case management activities statewide.

E.6. Certification of Private Labs

The Commission recommends that:

All private labs that perform lead testing shall be certified and further shall be required to subscribe to protocols established by CLPPP.

Medical providers who use the services of the small number of private labs that do lead testing have been concerned about the accuracy of their analyses. The CLPPP has been unable to assess the quality of these facilities, because they do not report their finding to the program as they should under current legal requirements.

Testing techniques used by private labs can vary in their reliability. EP tests can be done using techniques that differ enough in their results to provide possible confusion. When hematofluorometers are used, they must be calibrated regularly to provide accurate results.

For these reasons, the Commission has recommended that all private labs be certified for lead testing and subscribe to protocols determined by CLPPP.

The state lab as well as the CDC have already established reference standards and proficiency programs which can be used as guidelines for private labs. Since only 5 percent of lead testing is done by private labs, certification and monitoring should require a relatively minor share of CLPPP's budget and perhaps could be funded through a certification fee system.

F. SHARING THE COST OF DELEADING

Approximately 1.2 million housing units in the Commonwealth contain lead paint, yet in the overwhelming majority of cases, the current owners did not put it there. Those who originally painted these homes did so at a time when warnings about the hazards of lead were muted or non-existent and when lead paint was widely considered to be the best quality paint. Indeed as late as 1961, federal regulations required the use of lead paint in federally owned or assisted public housing units.

Although lead hazards pose broad societal problems, legal mechanisms to address them have concentrated on poisoned children, their parents and affected property owners. These parties have been inadequately informed as to the risks and responsibilities associated with lead poisoning, yet when a child is poisoned, legal process is used to enforce immediate deleading without providing financial assistance or other support.

While this approach has worked to ensure the deleading of identified units, and the Commission would not support weakening existing enforcement mechanisms, it has sought the means both to provide incentives for owners to delead before children are poisoned and to distribute the costs of deleading over a broader segment of society.

Given these considerations, the Commission recommends that:

1. **The Executive Office of Communities and Development shall administer a loan and grant program for low income property owners.**
2. **These loans and grants shall be funded by a 3 cent tax on leaded gasoline.**
3. **A non-refundable tax credit up to $1,000 shall be available to all property owners who delead.**
4. **Financial lending institutions shall be encouraged to require deleading as a condition of issuing a mortgage and to include costs of deleading within the mortgage.**

F.1. Tax Credits for Deleading

The Commission recommends that:

The General Laws' taxation provisions shall be amended such that a $1,000 non-refundable tax credit be issued to all property owners for each housing unit deleaded in a given tax year. The presence of lead must be established by certified inspectors, and must be removed by certified deleaders.

In order to claim a tax credit a copy of a post-deleading reinspection form must be filed with the Department of Revenue. The Commissioner of the Department of Revenue in consultation with the Director of the Childhood Lead Poisoning Prevention Program shall devise regulations to aid in the enforcement of this provision.

To provide incentives to property owners of moderate and significant means, and to encourage preventive deleading, the Commission has recommended that the General Laws' taxation provision be amended to permit a residential owner to claim a $1,000 non-refundable tax credit for each unit deleaded in a given tax year.* It has been estimated that a gross income of $30,000 a year would be required to allow an individual to take full advantage of the available tax credit. On the other hand, only a third of full deleading costs would in all likelihood be covered, as such costs average $2,500 to $3,000.

The costs to the Commonwealth of such a credit have been estimated to total $5,600,000 annually. This projection was derived by approximating the number of individuals who would claim the credit. These individuals would fall into three categories: those who own property in an Emergency Lead Poisoning Area, those who own property in which a poisoned child resides and those who wish to preventively delead.

Expenditures are calculated for each of these groups.

1. ELPA Related

Assuming 10 ELPAs are designated per year, 75 units are deleaded per ELPA and of these, 75 percent will be deleaded to standard, the number of tax credits issued for ELPA deleading can be estimated as: 10 x 75 x .75 (75%) x $1,000 = $562,000.

2. Case Related

The current caseload of 1,080 poisoned children per year can be expected to increase approximately two or three fold as a result of the changed CDC guidelines. Also, universal screening, it is estimated, will increase the caseload by another 100 percent. Thus, the caseload of poisoned children can be estimated at 1,080 x 2.5 x 1.5 = 4,050. Of these one could expect that 75 percent will delead to standard and apply for the credit: 4,050 x .75 = 3,037.50(x $1000 = $3,037,500. This figure is an upper limit as it assumes that all property owners in ELPAs will qualify for a full tax credit.

*In 1978, the Legislature adopted a $500 tax credit for deleading, but an accompanying "sunset provision" only kept it on the books for three months. (Chapter 403, Acts of 1978)

3. Preventive Deleading

Although it is impossible to say how many non-citation deleadings are performed by owners themselves, the number done by contractors appears quite small — less than 500 per year. Assuming this figure jumps to 2,000 with the tax credit, and that 100 percent of this group use it, we can estimate: 2,000 x $1,000 = $2,000,000.

Total Cost:

$3,037,500 (Citation)
$ 562,000 (ELPA)
$2,000,000 (Preventive)

Total: $5,599,500

Finally, it should be noted that if current trends continue, the caseload of poisoned children will decline in future years, lowering the number of deleadings and, thus, tax credits.

F.2. Grant/Loan Program for Deleading

The Commission recommends that:

The Executive Office of Communities and Development shall administer and regulate a loan and grant program to assist eligible property owners with the costs of deleading. Such funds are to be distributed through local non-profit housing and community agencies. EOCD will establish categorical eligibility criteria for this program, as well as other necessary regulations.

The purpose of the grant and loan program is to assist those property owners whose income does not qualify them for the proposed $1,000 tax credit. Given that deleading costs may be high, especially in sections of neighborhoods designated "Emergency Lead Poisoning Areas", it is essential that funds be made available to assist low income homeowners.

The Commission further recommends that loans be issued on a deferred basis to be paid back at the time of sale. This condition will enable repayment to the Commonwealth without a substantial financial burden being imposed on property owners.

F.3. Funding for a Grant/Loan Program

The Commission recommends that:

The proposed grant/loan program shall be funded through a 3 cent tax on the price of leaded gasoline.

Gasoline is the major source of lead in air. Airborne lead from this source has been linked to:

- learning and behavioral disabilities in children
- elevated blood pressure in adults
- minor birth defects
- disruptions of certain enzymes in the body including those necessary for making hemoglobin and vitamin D.

Since the mid-1970s, the federal Environmental Protection Agency has acted to reduce the level of lead in gasoline resulting in a 50 percent drop in lead content from that period to the present. A concomitant 37 percent drop in blood lead levels in Americans has occurred in that same period.

A further lead in gas cut which occurred in March of 1985 is estimated to eliminate 50,000 heart attacks, strokes and deaths between 1980 and 1990 in addition to the 50,000 that have already been saved due to lead reductions from 1976-1980.

A 3 cent tax on leaded fuel was proposed as a source of funds to offset the costs of a grant or loan program, and in part to discourage the use of leaded gas which while declining at a rate of roughly 15 to 20 percent a year, still remains a source of environmental contamination. Although EPA is considering a ban on leaded gas to go into effect in 1988, there is much debate as to whether this will occur.

Assuming the ban is not implemented, revenues generated from a 3 cent tax on leaded gasoline would yield the following amounts:

		in millions
FY	1988	$11.40
	1989	$ 9.12
	1990	$ 7.29
	1991	$ 5.82

Currently, there is a price differential of three to ten cents between leaded and regular unleaded gasoline at the pump. Many users of leaded gasoline drive older cars which are gradually fading from use. A substantial segment of the leaded gasoline user group could use unleaded gasoline, but chooses the leaded source for price reasons.

The Commission recognizes the reluctance of the General Court to consider new taxes, particularly "directed taxes" as are proposed in this case. The Commission would emphasize that the connection between lead in gasoline and the lead in children's blood is now unquestionable, and that any steps which can be taken to strongly discourage its use are worthy of serious consideration.

Finally, if such a tax were adopted to commence in FY 1989, it could yield more than $20,000,000 over a three year period, enough to finance the deleading of more than 6,500 housing units for low and moderate income homeowners. If such funds were targeted toward ELPAs, the Commonwealth would have found the ways and means to undertake genuine preventive deleading.

F.4. Role of Lending Institutions

The Commission recommends that:

Private financial lending institutions shall be encouraged in every way possible to include the cost of deleading as a mortgageable cost, and to require documentation of deleading prior to issuing homeowner loans.

The simplest way to deal with the financial burden of deleading would be for lending institutions to include deleading as a mortgageable cost, spreading out a heavy financial burden over a 20 or 30 year period. After substantial study and discussion, the Commission determined that such a recommendation was not viable due to the nature of the mortgage market. Most Massachusetts mortgages are sold on the secondary mortgage market to federally regulated entities beyond the reach of a state legislature.

Nonetheless some banks are taking steps on their own without governmental regulation. The First Essex Bank in Lawrence, for example, requires proof of deleading before issuing most mortgages.

The Commission strongly urges banks to move in the direction of requiring deleading and also to take the further step of adding deleading costs to the appraised value of homes, so that these costs can be amortized over the term of loans.

VII. FOOTNOTES

(1) Cited in *State Health Agency Lead Poisoning Prevention,* Special Report by the Public Health Foundation, January, 1986.

(2) The 40 ug/dl whole blood standard has since been changed to 25 ug/dl.

(3) *State of Danger,* Massachusetts Advocacy Center, 1974, p. 17, citing Gilsin, J.F. *Estimates of the Nature and Extent of Lead Poisoning in the United States,* National Bureau Technical Note 746, Department of Commerce.

(4) U.S. Congress, Senate, Committee on Labor and Public Welfare. *Lead-Based Paint Elimination Act of 1970.* Report accompanying H.R. 19172, Senate Report No. 91-1432, 91st Cong., 2d Sess. Washington, U.S. Government Printing Office. 1970. p. 2.

(5) *State of Danger,* Report by the Massachusetts Advocacy Center, 1974, p. 46.

(6) *Children, Lead Poisoning and Block Grants: A Year End Review of How Block Grants Have Affected the Nation's Ten Most Crucial Lead Screening Programs.,* Report by the National Coalition for Lead Control, October 1982, page 5.

(7) Report of the Comptroller General *Maternal and Child Health Block Grant: Program Changes Emerging under State Administration.* Appendix VIII, p. 107. May 1984.

(8) The following statutes authorize these activities:
The *Federal Food Drug and Cosmetic Act*
21 U.S.C. s 301 et seq.
The *Federal Water Pollution Control Act*
33 U.S.C. s 1311 et seq.
The *Occupational Safety and Health Act* of 1970
29 U.S.C. s 655 et seq.
The *Lead Based Paint Poisoning Prevention Act*
42 U.S.C. s 4801 et seq.

(9) These include studies by Drs. Spittler and Feder for E.P.A., and by Dr. Binder for the Centers for Disease Control.

(10) See Needleman, H.; Rabinowitz, M.; Leviton, A.; Linn, S.; and Schoenbaum, S. 1984. Relationship between prenatal lead exposure and congenital anomolies. JAMA 251: 2956-59, and Needleman, H.; Bellinger, D.; Leviton, A.; Rabinowitz, M.; and Nichols, M. 1983. Umbilical cord blood lead levels and neuropsychological performance at 12 months of age. Ped Res 17: 179A.

(11) See *Boston Child Lead Poisoning,* Report submitted to the U. S. Environmental Protection Agency, August 1985, p. 11.

VIII. APPENDICES

LIST OF RECOMMENDATIONS

A. TECHNICAL STANDARDS

A.1. Inspection and Deleading Standards in Residential Property

a. Safe limits of lead on any surface shall be 600 parts per million.

b. Deleading requirements shall be extended from a four foot level to a five foot level on all interior and exterior surfaces.

c. Deleading requirements shall apply to all accessible movable parts of windows.

d. Requirements for inspection and deleading shall apply to any dwelling where a child spends on average more than 10 hours a week for a period of at least one month.

A.2. Lead in Soil

a. Soil shall be included as a source of lead subject to the inspection requirements of the law when a child under six resides or will reside in a residential premises. Deleading requirements of the law shall be based on a determination by the Director of the Childhood Lead Poisoning Prevention Program that soil is an appropriate factor to consider in hazard identification and abatement.

b. The Commissioner of Public Health in consultation with the Department of Environmental Quality Engineering shall be required to promulgate regulations regarding:

Dangerous levels of lead in soil; and,

Soil sampling and testing.

The Commissioner of Public Health shall also promulgate regulations regarding safety guidelines for workers removing leaded soil.

These regulations shall be promulgated within 180 days of the passage of relevant statutory amendments.

c. The Commissioner of the Department of Environmental Quality Engineering shall promulgate regulations regarding cover and disposal of leaded soil. These shall be issued within 180 days of promulgation of the Department of Public Health's regulations.

A.3. The Lead in Water Standard

a. DEQE shall adopt a 20 parts per billion lead in water standard to correspond to proposed federal guidelines.

b. DEQE shall establish adequate sampling guidelines for local water supplies and shall monitor such sampling.

c. All communities at risk for lead exposure shall take appropriate corrosion control measures in consultation with DEQE's corrosion control program.

d. Cities and towns shall be encouraged to assert ownership rights over service lines to permit gradual replacement of lines that contain lead.

A.4. Lead Hazards in Residences of Cognitively Impaired Individuals

a. Property owners shall be required to abate lead hazards in the residences of individuals of any age who have a blood lead elevation and whose cognitive development is delayed, retarded, or associated with pica.

A.5. Regulation of Sandblasting, Water Blasting and other Removal Methods

a. The Department of Public Health shall ban sandblasting of lead-based paint where it determines that children under six are at risk of exposure.

b. The Department of Public Health shall draft regulations in consultation with the Department of Environmental Quality Engineering for the purpose of requiring shrouding whenever power sanders, sandblasting or water blasting are used as means of removing lead based paint from exterior surfaces. Enforcement of this provision shall be the responsibility of local authorities. Local authorities shall be authorized to issue permits for sandblasting or water blasting.

B. EDUCATION

B.1. Public Education on Lead Poisoning Prevention

a. The Department of Public Health should undertake more aggressive and creative methods to alert the public to the dangers of lead.

b. The Governor should appoint an Interagency Task Force including, but not limited to, the Department of Public Health, the Department of Public Welfare, the Executive Office of Communities and Development, the Office for Children, the Executive Office of Human Services, the Executive Office of Consumer Affairs, the Department of Social Services, and the Department of Environmental Quality Engineering to examine ways in which these agencies can play a role in educating the public about lead poisoning prevention.

C. SCREENING

C.1. Screening by Medical Providers

a. All medical providers, individual and institutional, shall be required to screen children under the age of six pursuant to a schedule to be determined by the Commissioner of Public Health in consultation with professional medical groups.

b. The Commissioner shall further be authorized to regulate the screening of pregnant women and newborns, should such become medically warranted at some future time.

C.2. Reimbursement of Lead Screening Costs

a. Third party payers shall be required to reimburse lead screening costs to providers.

C.3. Day Care

a. The Office for Children shall require day care providers to obtain from the parent(s) of each child in care, aged two or older, a statement signed by a physician or health agency which documents that the child has been screened for lead poisoning. This evidence shall be submitted to the day care provider when the child in residence becomes two years old or upon enrollment into day care if the child is two years old or older.

D. PRIMARY PREVENTION

D.1. Establishment of Emergency Lead Poisoning Areas (ELPAs)

a. The Childhood Lead Poisoning Prevention Program, using its existing statutory authority, shall identify and target high incidence neighborhoods for lead paint inspections and removal. Identification of ELPAs will be based upon regulatory standards which will define high incidence levels and priorities in selection.

D.2. Inspection Requirements for ELPAs

a. In ELPAs, normal inspection procedures shall include the following: all building exteriors, soil, parks, vacant lots and playgrounds, also the interiors of all schools where children under 6 receive instruction, as well as the interiors of all residences where a child under 6 spends on average more than 10 hours per week for a period of more than one month.

D.3. Vacancy and Transfer Deleading in ELPAs

a. All residences in ELPAs that do not house children under six shall be required to be deleaded up to state standards at the time of apartment vacancy or transfer of ownership.

E. ENFORCEMENT

E.1. Certification of Inspectors and Deleaders

a. Lead paint inspectors and deleaders shall be certified and trained as fulfilling professional requirements to be established by the CLPPP.

b. In any effort to address the liability insurance crisis by the General Court, specific attention should be addressed to the needs of the deleading industry.

E.2. Enforcement by Local Boards of Health

a. Section 198 paragraph 2 of the lead law which gives local boards of health concurrent enforcement authority with the Department of Public Health shall be implemented to its full extent. Failure to implement this section shall be followed up by enforcement actions by the Department of Public Health and if necessary by the Attorney General.

E.3. Inspection and Disclosure Requirements for Property Transfers

a. Two years after a training program for lead paint inspectors is authorized and funded, sellers of residential property built before 1978 shall be required to have a lead paint inspection of their property performed by a certified inspector. This provision will be phased in as follows:

Two years post program implementation — pre 1920 housing;
1 year later — pre 1940 housing;
2 years later — pre 1960 housing; and
3 years later — pre 1980 housing.

b. The seller of property shall be required to give a copy of the inspection report to the buyer or to the real estate agent who in turn will make the report available to prospective buyers prior to the signing of a purchase and sale agreement. Agents shall also be required to provide buyers with a form concerning provisions of the Massachusetts lead law, to be prepared by CLPPP.

E.4. Discrimination Against Families with Children in the Housing Market

a. The Massachusetts Commission Against Discrimination shall be requested to include testing for discrimination against families with children in programs it conducts to test for housing discrimination.

b. MCAD and the Attorney General's office shall be requested, as a routine matter, to inform plaintiffs of their ability to independently seek immediate injunctive relief to halt discrimination against families with children seeking housing pursuant to G.L. c. 151B s. 9.

c. The lead law shall be amended to specify that owners cannot comply with section 197 by refusing to rent to families with children under six and that such behavior constitutes a violation of Chapter 151B. Evicting such families or refusing to renew their leases already violates G.L. c.93A and 186 s. 18.

d. The lead law shall be amended to specify that upon a legal finding by the MCAD of refusal to rent to a family because of the presence of lead paint, an owner shall be required to abate pursuant to s.197 even if a child under six does not currently live in the unit in question.

E.5. Medical Follow up of Poisoned Children

a. The Director of CLPPP shall be authorized to establish medical guidelines of care for the follow-up of poisoned children, such guidelines to be developed in conjunction with recognized professional medical groups.

E.6. Certification of Private Labs

a. All private labs that perform lead testing shall be certified and further be required to subscribe to protocols established by CLPPP.

F. SHARING THE COST OF DELEADING

F.1. Tax Credits for Deleading

a. The General Laws' taxation provisions shall be amended such that a $1,000 non-refundable tax credit shall be issued to all property owners for each housing unit deleaded in a given tax year. The presence of lead must be established by certified inspectors, and must be removed by certified deleaders.

F.2. Grant/Loan Program for Deleaders

a. The Executive Office of Communities and Development shall administer and regulate a loan and grant program to assist eligible property owners with the costs of deleading. Such funds are to be distributed through local non-profit housing and community agencies. EOCD will establish categorical eligibility criteria for this program, as well as other necessary regulations.

F.3. Funding for a Grant/Loan Program

a. The proposed grant/loan program will be funded through a 3 cent tax on the price of leaded gasoline.

F.4. Role of Lending Institutions

a. Private financial lending institutions shall be encouraged in every way possible to include the cost of deleading as a mortgageable cost, and to require documentation of deleading prior to issuing homeowner loans.

COMMISSION ENABLING LEGISLATION

A special comission, to consist of two members of the senate, one of whom shall be the senate chairman of the committee on health care, two members of the house of representatives, one of whom shall be the house chairman of the committee on health care; provided that said chairmen shall jointly serve as chairmen on said commission, and each may appoint an acting chairman in the event of his absence, the secretary of the executive office of communities and development or his designee, the commissioner of the department of public health or his designee, the director of the (sic) childhood lead poisoning prevention program or his designee, the director of the office for children or his designee, a member of the housing court division of the trial court to be appointed by the chief administrative justice of the supreme judicial court, and eleven persons to be appointed by the governor, two of whom shall be officials of municipal lead poisoning prevention programs, one of whom shall be an official of the neighborhood health centers, one of whom shall be a hospital official with experience in lead poisoning treatment, two of whom shall be parents of lead poisoned children, one of whom shall be an individual with deleading experience in the private sector, one of whom shall be a representative of the real estate industry, one of whom shall be a director of a not-for-profit housing rehabilitation corporation, one of whom shall be an attorney employed by a legal services program which attorney has experience in lead paint enforcement, is hereby established for the purposes of making an investigation and study relative to the adequacy of lead poisoning prevention and control efforts in the commonwealth. Said investigation and study shall include, but not be limited to, consideration of the effectiveness of state and local programs in the prevention of lead poisoning, the availability and quality of private deleading services, the direction of federal agencies and courts in lead poisoning prevention and treatment, and the need for additional or alternative mechanisms to assist in the financing of deleading, the use of economic incentives to promote deleading by landlords and tenants, the effect of the single family exemption, the effectiveness of public education efforts, and the role of the judiciary in lead paint prevention and enforcement. Said commission shall report to the house of representatives the results of its investigation and study and its recommendations if any, together with drafts of legislation necessary to carry its recommendations into effect, by filing the same with the clerk of the house of representatives on or before the last Wednesday in December, nineteen hundred and eighty-six.

Section 57 of Chapter 140 of the Acts of 1985.

§ 190. Statewide program; director; advisory committee

The department shall establish a statewide program for the prevention, screening, diagnosis and treatment of lead poisoning, including elimination of the sources of such poisoning, through such research, educational, epidemiological and clinical activities as may be necessary.

The commissioner shall appoint a lead poisoning control director, who shall serve at the pleasure of the commissioner. The director shall be responsible, subject to the authority of the commissioner, for carrying out and administering all programs created pursuant to this and the following nine sections. As used in the following nine sections, "director" shall refer to the lead poisoning control director.

The director may contract with any agencies, individuals or groups for the provision of necessary services, subject to appropriation; and shall issue and from time to time, amend, such rules and regulations as may be necessary.

The governor shall appoint an advisory committee for the lead poisoning prevention program, which shall consist of nine members, at least four of whom shall be physicians or persons active in the field of public health and who shall serve at the pleasure of the governor. At least two members of said advisory committee shall be parents of children under six years of age who reside in lower-income urban areas. The committee shall advise the director on matters of policy; shall be consulted by the director prior to the issuance of rules and regulations; and shall perform such other duties as the director may request. The members of the advisory committee shall not be paid for their services, but they shall be reimbursed for travel and other expenses necessary for the performance of their duties. As used in the following nine sections, "advisory committee" shall refer to said committee.
Added by St.1971, c. 1081, § 1.

§ 191. Reports of lead poisoning; notification to agencies; records

Any examining physician, hospital, public health nurse or other diagnosing person or agency shall report to the director the existence and circumstances of each case of lead poisoning known to them and not previously reported. Such reports shall be made on forms prescribed by the director, and shall be submitted not later than three days after said person or agency first diagnoses or is informed of such case. The director shall by regulation with the advice of the advisory committee and in accordance with sound medical practice define the terms "lead poisoning" and "previously reported".

When a case of lead paint poisoning is reported to the director, he shall inform such local boards of health, public health agencies and other persons and organizations as he deems necessary; provided, however, that the name of any individual contracting lead poisoning shall not be included unless the director determines that such inclusion is necessary to protect the health and well-being of the affected individual.

The director shall maintain comprehensive records of all reports submitted pursuant to this section. Such records shall be geographically indexed in order to determine the location of areas of relatively high incidence of lead poisoning. Such records shall be public records, subject to the provision of the preceding paragraph relating to the names of individuals.
Added by St.1971, c. 1081, § 1.

§ 192. Educational and publicity program

The director shall institute an educational and publicity program, in order to inform the general public, and particularly parents of children residing in areas of significant exposure to sources of lead poisoning; teachers, social workers and other human service personnel; owners of residential property, particularly property constructed previous to the year nineteen hundred and forty-five; and health services personnel, and particularly interns, residents and other intake personnel at major hospitals, of the dangers, frequency, and sources of lead poisoning, and the methods of preventing such poisoning.
Added by St.1971, c. 1081, § 1.

§ 193. Early diagnosis program; examination and reports; records

The director shall establish a program for early diagnosis of cases of lead poisoning. Such program shall, to the extent permitted by appropriations, systematically examine all children under six years of age residing within the commonwealth for the presence of lead poisoning. Such examinations shall be made by such means and at such intervals as the director shall by regulation determine may be medically necessary and proper. Such program shall

employ, to the extent possible, residents of the areas in which screening and examinations are conducted, which residents shall not be subject to the provisions of chapter thirty-one, unless required as a condition for receipt of federal funds, or section nine A of chapter thirty.

Such program of diagnosis shall, to the extent that all children residing in the commonwealth are not systematically examined, give priority in examinations to those children residing, or who have recently resided, in areas where significant numbers of lead poisoning cases have recently been reported or where other reliable evidence indicates that significant numbers of lead poisoning cases may be found.

When the director is informed of a case of lead poisoning pursuant to section one hundred and ninety-one, or otherwise, he shall cause to have examined all other children under six years of age, and such other children as he may find advisable to examine, residing or recently residing in the household of the victim, unless the parents of such child object to said examination because it conflicts with their religious beliefs and practices. The results of such examination shall be reported to the director, to the person or agency reporting the original case pursuant to section one hundred and ninety-one, and to such other persons or agencies as the director deems advisable.

The director shall maintain comprehensive records of all examinations conducted pursuant to this section. Such records shall be geographically indexed in order to determine the location of relatively high incidence of lead poisoning. Such records shall be public records, subject to the provisions of section one hundred and ninety-one relating to the names of examined individuals. A summary of the results of all examinations conducted pursuant to this section shall be released quarterly, or more frequently if the director so determines, to all interested parties.

All cases or probable cases of lead poisoning, as defined by regulation by the director, found in the course of examinations conducted pursuant to this section shall be reported immediately to the affected individual, to his parent or legal guardian if he is a minor, and to the director. The director shall inform such persons or agencies as he deems advisable of the existence of such case or probable case, subject to the provision of section one hundred and ninety-one relating to the names of individuals.

Added by St.1971, c. 1081, § 1.

§ 194. Detection of sources of lead poisoning; inspection; search warrant; notice to interested parties; examination of children; reports; records

The director shall establish a comprehensive program for detection of sources of lead poisoning. Such program shall attempt, to the extent permitted by appropriations, to locate all dwellings in which the paint, plaster or other accessible substance contains dangerous amounts of lead. The means of detection, and the amount of lead that produces the danger of lead poisoning, shall be determined by regulation by the director in accordance with sound medical practice and current technical knowledge.

Such program of detection shall, to the extent that all appropriate dwellings are not inspected, give priority in inspections to those dwellings located in areas where significant numbers of lead poisoning cases have recently been reported, and in which children under six years of age reside. Such program shall employ, to the extent possible, residents of the areas in which inspections are conducted, which residents shall not be subject to the provisions of chapter thirty-one, unless required as a condition for receipt of federal funds, or section nine A of chapter thirty.

Upon the request of any occupant, the director shall cause to have the occupant's premises inspected within a reasonable time, not to exceed ten days, unless systematic inspection of the area in which the person requesting the inspection resides is scheduled within thirty days, in which case said inspection may be deferred up to twenty additional days.

When the director is informed of a case of lead poisoning pursuant to sections one hundred and ninety-one or one hundred and ninety-three, or otherwise, he shall cause to have inspected the dwelling in which the victim resides, or has recently resided, if the occupants of said dwelling consent, after reasonable notice, to such inspection. If the occupant refuses admittance, an agent of the director or of any local board of health or code enforcement agency may apply for a search warrant to permit entry. A court may issue a warrant upon a showing that a victim of lead poisoning resides, or has recently resided in said dwelling. The findings of such inspection shall be reported to the director and to the appropriate enforcement authorities set out in section one hundred and ninety-eight.

A dangerous level of lead found in a dwelling inspected pursuant to this section, or otherwise, shall be reported immediately to the owner of the building, all affected tenants, all mortgagees and lienholders of record, the appropriate enforcement authorities set out in section one hundred and ninety-eight, and the director. The director shall inform such other persons or agencies as he deems advisable, and shall cause to have prominently posted on all entrances to said dwelling a notice that the dwelling contains dangerous amounts of lead paint or other materials which children should not be allowed to eat or chew. Such notice may not be removed until all premises have been found to comply with section one hundred and ninety-seven.

When a dangerous level of lead is found in a dwelling inspected pursuant to this section, or otherwise, the director shall cause to have examined all children under six years of age, and such other children as he may find advisable to examine, residing or who have recently resided in said dwelling. The results of such examinations shall be reported to the director, the affected individual and his parent or legal guardian. The director shall inform such other persons or agencies as he deems advisable, subject to the provision of section one hundred and ninety-one relating to the names of affected individuals.

The director shall provide by regulation for the implementation by local boards of health, code enforcement agencies and housing inspection agencies of the provisions of this section and the periodic reporting to him of the results of all inspections of dwelling units conducted hereunder by said boards and agencies.

The director shall maintain comprehensive records of all inspections conducted pursuant to this section. Such records shall be geographically indexed in order to determine the location of areas of relatively high incidence of dangerous lead levels. Such records shall be public records. A summary of the results of all inspections conducted pursuant to this section shall be released quarterly, or more frequently if the director so determines, to all interested parties.

Added by St.1971, c. 1081, § 1. Amended by St.1974, c. 449, § 1.

§ 195. State laboratory for lead and lead poisoning detection; specimen analysis; fee; report as prima facie evidence

The commissioner shall establish, within the Bureau of Institute of Laboratories, a state laboratory for lead and lead poisoning detection. Said laboratory shall analyze specimens received from children for the presence of lead poisoning, and samples of paint and other materials for dangerous levels of lead.

Said laboratory shall analyze tests and samples submitted by persons and agencies not within the department as its facilities permit, and may charge for such services a fee not greater than the cost to it of such services. A copy of the report of said laboratory or any division thereof, certified as a true copy by the custodian of the records of said laboratory, shall be admissible in any judicial proceeding without further authentication by either the laboratory or by the agency for which said report was made and shall be prima facie evidence of the facts stated therein.

Added by St.1971, c. 1081, § 1. Amended by St.1973, c. 149.

§ 196. Prohibited acts; punishment; embargo of personal property

(*a*) No person shall apply or cause to be applied any lead-based paint, glaze or other substance to any toy, furniture, cooking, drinking, or eating utensil, or interior or exterior surface or fixture of any dwelling; and no person shall sell, expose for sale, deliver, give away or possess with intent to sell, deliver or give away any toy, furniture, cooking, drinking or eating utensil to which any lead-based paint, glaze or other substance has been applied.

Any paint, glaze or other substance shall be deemed to be lead-based when it contains more than six one-hundredths of one per centum lead by weight, and for such substances manufactured prior to June twenty-third, nineteen hundred and seventy-seven one-half of one per centum lead by weight (calculated as lead metal) in the total non-volatile content of liquid paints or in the dried film of paint or glaze already applied, or when it contains a substantially equivalent amount of lead measured by such alternative reliable method of measurement as the director shall by regulation establish.

Any person who violates the provision of this subsection shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars for each violation. Each article, surface or fixture to which a lead-based substance is applied shall constitute a separate violation. Any person who willfully violates the provisions of this subsection shall be punished by imprisonment for not more than three months for each violation.

Any article of personal property in violation of this subsection may be embargoed by the director in the manner provided in section one hundred eighty-nine A of chapter ninety-four.

(*b*) No person shall sell, expose for sale, deliver, give away or possess with intent to sell, deliver or give away any lead-based paint, glaze or other surface covering including raw lead or the raw lead compounds utilized in the home manufacturing of glazes, as defined in subsection (a); provided, however, that the director may by regulation with the concurrence of a majority of the advisory committee exempt from the provisions of this subsection certain lead-based paints that are not intended or suitable for use on or within residential premises, and are not advertised or labeled as intended or suitable for such uses, and are not sold to the general public on a retail basis, when he finds with substantial certainty that the sale or use of said paints will not result in the exposure of children younger than six years of age to said paints and will not result in an additional danger to life or health for such children or for the general public. The director may by regulation with the concurrence of a majority of the

advisory committee exempt from the provisions of this subsection certain lead-based ceramic glazes or the raw lead and raw lead compounds utilized in the home manufacturing of glazes on such terms as he finds will not result in an additional danger to life or health.

Whoever violates the provisions of this subsection shall be punished by a fine of not less than two hundred dollars nor more than five hundred dollars for each violation. Each can, bottle or other container of any prohibited substance shall constitute a separate violation. Whoever willfully violates the provisions of this subsection shall be punished by imprisonment for not more than six months for each violation. Any article or substance in violation of this subsection may be embargoed by the director in the manner provided in section one hundred eighty-nine A of chapter ninety-four.

Added by St. 1971, c. 1081, § 1. Amended by St.1971, c. 1081, § 2; St.1975, c. 410; St.1979, c. 589.

§ 197. Duty of owner of residential premises; removal or cover of offending paint or material

Whenever a child or children under six years of age resides in any residential premises in which any paint, plaster or other accessible materials contain dangerous levels of lead as defined pursuant to section one hundred and ninety-four, the owner shall remove or cover said paint, plaster or other material so as to make it inaccessible to children under six years of age. Whenever any such residential premises containing said dangerous levels of lead undergoes a change of ownership and as a result thereof, a child or children under six years of age will become a resident therein, the new owner shall remove or cover said paint, plaster or other material so as to make it inaccessible to such children.

Repainting with non-lead-based paint, without removal of the offending paint, plaster or other material shall not constitute compliance with this section. Such removal or covering shall be performed as follows: —

(*a*) All peeling paint, plaster or other material, on both interior and exterior surfaces and fixtures, shall be removed or adequately covered.

(*b*) Paint, plaster or other material that is not peeling shall be removed or covered on window sills; door frames below the four-foot level; windows, including mullions, below the four-foot level; stair rail spindles; stair treads from the lip to the riser on bottom and four inches back from the lip on the top of the tread; doors below the four-foot level and four inches from all edges; stair rails; porch railings; and all other exterior and interior surfaces or fixtures that may be readily chewed by children.

This duty shall apply to every owner of residential premises whenever a child or children under six years of age reside therein or whenever such premises undergoes a change of ownership and as a result thereof a child or children under six years of age shall reside therein, whether or not his premises have been inspected pursuant to section one hundred and ninety-four or otherwise. This section shall be strictly construed and enforced so as to best protect the safety of residents of such dwellings.

Added by St.1971, c. 1081, § 1.

§ 198. Violations and enforcement of sections 196 and 197

Any violation of sections one hundred and ninety-six and one-hundred and ninety-seven may be treated by any party as a violation of the state sanitary code and all procedures and remedies applicable to such violations of said sanitary code shall be available to correct, deter or punish violations of said sections. The district and superior courts shall have jurisdiction to enforce the provisions of said sections to the same extent that said courts have jurisdiction to enforce said sanitary code.

All local boards of health or other code enforcement agencies, including in the city of Boston the commissioner of housing inspection shall enforce sections one hundred and ninety-six and one hundred and ninety-seven in the same manner and with the same authority as they may enforce the sanitary code. The director shall provide by regulation for the implementation by local boards of health, code enforcement agencies and housing inspection agencies of the provisions of this section and the periodic reporting to him of the results of all actions undertaken hereunder by said boards and agencies.

The director shall have concurrent reponsibility and authority to enforce sections one hundred and ninety-six and one hundred and ninety-seven and in so doing shall have available to him all powers and authority which shall be available to local boards of health pursuant to sections one hundred twenty-seven A through one hundred twenty-seven K inclusive.

Violations of sections one hundred and ninety-six and one hundred and ninety-seven shall be treated as emergency matters, and shall be given preference by enforcing agencies and speedy hearings by district and superior courts.

Added by St.1971, c. 1081, § 1. Amended by St.1974, c. 449, § 2.

§ 199. Liability of owner of residential property; damages

The owner of any residential property shall be liable for all damages caused by his failure to perform the duties required of him pursuant to subsection (*a*) of section one hundred and ninety-six or section one hundred and ninety-seven.

The owner of any residential property who is notified of a dangerous level of lead in paint, plaster or other material present upon his premises pursuant to section one hundred and ninety-four, and who does not satisfactorily correct or remove said dangerous conditions shall in addition to the provisions of the preceding paragraph be subject to punitive damages, which shall be treble the actual damages found.

Added by St.1971, c. 1081, § 1.

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